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Air Conditioning & Refrigeration News

The Newspaper of the Industry

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N.Y. Air Cooling Jobs Must Use Water Savers

Both New and Old Installations Must Have Equipment

NEW YORK CITY—Under new regulations established last week by the New York City Department of Water Supply, Gas, and Electricity, all air conditioning systems in New York City which consume 5 gallons or more per minute of city water will be required to make use of some sort of water conserving device.

The regulations apply to existing as well as new installations.

April 1, 1942, is the date set by the rules when "all equipment now in service . . . shall be equipped to conform with this rule."

The regulations were drawn up following a month's investigation by representatives of the industry and by engineers of the city water department, brought about by a "water shortage scare" occasioned by a drought which affected New York City's water supply. The report of the investigating committee was made last week by Joseph Goodman, commissioner of water supply, who put the regulations into immediate effect.

Copies of the new requirements are now being circulated to the city's users of air conditioning equipment and to all consulting engineers for guidance in the estimating and planning of new installations.

Both old and new systems in the city must hereafter, according to the newly adopted rules, make use of some water condensing device, "such as economizer, evaporative condenser, water cooling tower, or other similar apparatus."

The rules further provide that water conserving devices should use,

(Concluded on Page 2, Column 1)

Barlow & Seelig Sued By Petrie on Salary Terms

MILWAUKEE—Robert I. Petrie, former president of Barlow & Seelig Mfg. Co., Ripon, Wis. manufacturer of Speed Queen laundry equipment, has filed suit in federal district court here against the company, seeking $32,419 allegedly due him in salary and from a percentage of the company's consolidated net income for 1939 and 1940.

In his complaint, Mr. Petrie asserts that he entered into contract with the company to serve as general manager on Dec. 12, 1938, and that the agreement was to run until Jan. 1, 1941. The contract provided for a monthly salary of $1,500, plus 3%

(Concluded on Page 33, Column 3)

MORE ON COLDSPOT
See "Personalities" page 8, and the editorial, page 18.

'Tavern Owners' Ball' Wins Friends, Influences Sales

ST. LOUIS—It may seem somewhat out of the beaten path for a refrigeration distributor to put on a dance, but James & Co., General Electric distributing company here, has found it a way to crack a tough group of prospects.

Just recently James & Co. held its second "Tavern Owners Ball" at the auditorium at its headquarters, and when the results were tabbed up it was found that sales of commercial refrigeration equipment totaling more than $2,000 were directly

(Concluded on Page 25, Column 2)

EH & FA To Finance Self-Contained Room Coolers

WASHINGTON, D. C.—Self-contained room coolers have been added to the list of appliances which the Electric Home & Farm Authority finances. Current models only, with capacities of 1 hp. or less, will be eligible.

As in the case of other appliances financed by the Authority, this type of air conditioning equipment will be financed when retailed to customers by approved dealers in territories served by utilities which have agreements with the Authority providing for the collection of instalment payments.

A minimum down payment of 5% of the cash installed price will be required, and the coolers may be paid for over periods as long as 36 months for individual units and 48 months when these units are sold in combination with other major electrical appliances.

Dealers File Lawsuit Against N. Y. Utility

NEW YORK CITY—A complaint charging Consolidated Edison Co., four of its affiliated companies, and the various manufacturers and dealers associated with it in its current "bargain package" promotion with conspiracy in restraint of trade in connection with the merchandising of this "bargain package" was filed in U. S. District Court here April 6.

The complaint was signed by Edward Lowe, head of Lowe Electrical Co. of New Rochelle, one of the largest exclusive electrical appliance retailers in Westchester county, in behalf of the Westchester Gas & Electric Appliance Dealers Association, of which he is president, and the League of Metropolitan Appliance Dealers, of which he is chairman.

Named with the utility companies in the complaint are General Electric Co., Proctor Electric Co., Artistic

(Concluded on Page 4, Column 5)

COMMERCIAL NEWS
SALES AND INSTALLATION
Pages 10, 12, 14, 15, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, and 31.

'39 Commercial Machine Sales Over 300,000

Sales By Nema Group Total 197,552 Units; Gain Shown This Year

DETROIT—More than 300,000 and possibly close to 350,000 commercial refrigeration machines were sold last year for all types of applications, according to estimates made by AIR CONDITIONING & REFRIGERATION NEWS.

It is extremely difficult to arrive at any nearly exact figure for the number of commercial refrigeration machines sold, because of the inadequacy of the available sales figures on which to base a total figure for the industry.

However, on the basis of the available data it is clear that an increase was shown over 1938, and it is even likely that 1939 was the best year in the history of the industry.

The 16 manufacturers who are members of the Commercial Refrigeration Section of the National Electrical Manufacturers Association and who report sales to the Nema headquarters sold 197,552 refrigerating machines of all sizes and for all purposes during 1939. This includes units which form part of self-contained refrigerators such as beverage coolers, ice cream cabinets,

(Concluded on Page 4, Column 4)

Australian Authority Refuses To Extend Electrolux Patents

RCA
Radiogram
R.C.A. Communications, Inc.
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NLT TAUBENECK
Care Refrigeration News Detroit
MR JUSTICE STARK HIGH COURT OF AUSTRALIA DELIVERED JUDGEMENT MARCH TWENTY-EIGHTH IN OUR FAVOUR DISMISSING PETITION FOR EXTENSION ELECTROLUX PATENTS AFTER TWO YEARS LITIGATION
HALLSTROMS

N.Y. Federal Grand Jury Indicts Plumbing & Heating Groups And Local Electrical Union

Groups Charged With 'Blacklisting' Differ From Those In Other Sections

NEW YORK CITY—Federal grand jury indictments returned last week charging violations of the Sherman anti-trust act by the Heating, Piping & Air Conditioning Contractors of New York, the Association of Contracting Plumbers of New York, the New York Electrical Contractors Association, Inc., and Local No. 3 of the International Brotherhood of Electrical Workers, opened up a new phase of the federal government's charges that "illegal restraints and practices" have kept building and installation costs sky high.

The charges which jolted the New York building trades are separate and distinct from the indictments returned against the building trades in other parts of the country under the crusading of Assistant Attorney General Thurman Arnold, and it is even alleged that the New York City affiliates of the indicted plumbing groups in other parts of the country had been "examined" and given "a clean bill of health."

One of the chief points of significance in the indictments are charges that an agreement between the employer's association and the electrical union worked a boycott on certain kinds of electrical goods manufactured outside of New York.

The indictment against the plumbing groups related to a "restricted system of distribution" carried out by manufacturers who allegedly sold plumbing supplies to jobbers, who in turn resold the supplies to master plumbers, who then sold the supplies to the consumer, thus "increasing the cost of plumbing supplies from 20 to 25%."

The indictment charged that the defendants "conspired" to boycott, blacklist, and refuse to sell supplies

(Concluded on Page 2, Column 4)

G-E Adds 2 Models, Cuts Prices on 3

BRIDGEPORT, Conn.—Two new refrigerator models of 4 and 6-cu. ft. capacity and price reductions of $5 in three other models in the 1940 line have been announced by General Electric, effective April 1.

Model LB4-40, a stripped 4-cu. ft. model, has been added to the line to replace the JB4-40, stocks of which have been exhausted. This model has a list price of $129.50 in New York City and of $124.50 in Detroit, including five-year guarantee.

A deluxe 6-cu. ft. model, BH6-40, has been introduced with a list price of $194.75 in New York City and $189.75 in Detroit, to provide a model in the deluxe bracket at a slightly lower price than the B6-40 and give a more convenient "step-up" selling arrangement in this class.

This model has a glyptal exterior and a porcelain enamel interior. It will provide the "selective air conditions" type of refrigeration, but does not have controlled humidity or the air filter, both of which features are standard on the more expensive deluxe models.

Inside accessories include two porcelain vegetable drawers with glass covers, a set of Pyrex storage

(Concluded on Page 4, Column 5)

Bodine Named Copeland Service Manager

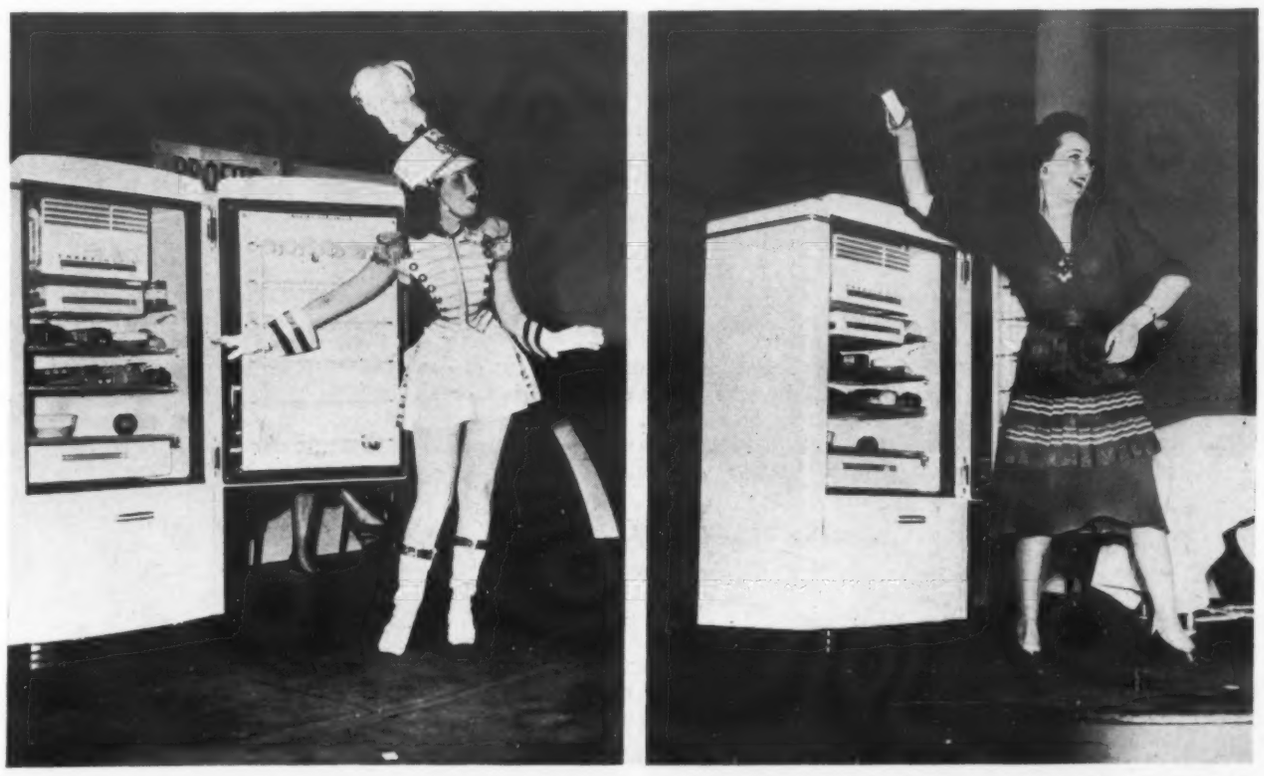
SIDNEY, Ohio—D. H. Bodine has been appointed national service manager for the Copeland Refrigeration Corp.

Mr. Bodine had formerly been national service representative in the service department of Universal Cooler Corp., having left his position there Feb. 1.

He is a real veteran in refrigeration service work, joining the service department of the Kelvinator Detroit branch in 1928, where he remained until 1936, when he left to take a position at Universal Cooler.

CANADIAN SHOW
Pictures, Stories, Personalities
Pages 32, 34, and 35

Pretty Girls and Fast Action In Crosley's Traveling Show



Crosley's putting on a show with plenty of action and sex appeal in some 20 major cities throughout the country to introduce its new refrigerator. The miss in military dress shows the seven temperature zones, while the lady at right winds up to toss a package of frozen food from the Freezorcold into the audience.

R. Cooper Jr. Has New Plan on Commercial

CHICAGO—General Electric commercial refrigeration equipment will be sold exclusively through a dealer structure in metropolitan Chicago under a plan recently adopted by R. Cooper Jr., Inc., here.

George Larness, commercial refrigeration manager for the company, states that R. Cooper Jr., Inc. will sell through nine or more dealers and will not sell any commercial equipment at retail. Under the plan, all installation and service work will be handled by the company's dealers.

Mr. Larsness reports that he is

(Concluded on Page 32, Column 5)

Neb. Power Refrigerator Sales Gain Over '39

OMAHA, Neb.—With the natural exception of radios, electric refrigerators topped all other major appliances in sales for the first two months of the year both in Omaha and in Council Bluffs, Iowa, according to reports made by dealers to Nebraska Power Co.

Refrigerator sales in both cities topped by a comfortable margin

(Concluded on Page 33, Column 3)

Ruling Makes Water Conserving Devices Compulsory In New York

(Concluded from Page 1, Column 1)

for makeup water, 15% or less of the water that would ordinarily be required without such a device.

As a result of the new rules, one manufacturer of cooling towers, it was reported, last week received an order for 10 cooling towers from one of the country's largest theater circuits, the towers to be installed at once in chain theaters throughout the city.

The complete text of the rules with respect to air conditioning and refrigeration follows:

"No new installation of refrigerating or air conditioning equipment requiring the use of water shall be installed on any premises supplied from the municipal system until a permit authorizing such installation has been issued by the department (of Water Supply).

"Applications for permits shall specify the make, type, and tonnage of installation, the minimum and maximum water requirements, and such additional information . . . as may be required. . . .

"Where the minimum rate of water required for the operation of the apparatus exceeds one-half gallon per minute, the supply shall be metered.

"Where the minimum rate does not exceed one-half gallon of water per minute, the supply shall be metered or charged for on an annual rate basis subject to the discretion of the department."

With respect to air conditioning the rules state:

"No individual or collective air conditioning system installed on any premises for a single consumer shall be permitted to discharge to waste more than the equivalent of five gallons of city water per minute annually.

HEART OF RULING

"All individual or collective air conditioning systems installed on any premises for a single consumer using in excess of the equivalent of five gallons of city water per minute annually shall be equipped with a water conserving device such as economizer, evaporative condenser, water cooling tower, or other similar apparatus, which device shall not consume for makeup purposes in excess of 15% of the consumption that would normally be used without such device.

"Any individual or collective group of such units installed on any premises for a single consumer with a rated capacity of 25 tons or more, or water consumption of 50 gallons or more per minute, shall be equipped with a water meter to separately register the consumption of such units or groups of units.

"This rule shall also apply to all air conditioning equipment now in service and such installations shall be equipped to conform with this rule by not later than April 1, 1942."

The regulations further stated, with regard to the use of water:

"The use of the pressure or flow of water from the city system as a source of energy is prohibited, except when specifically approved by the department.

"The use of water is permitted subject to such conditions or reservations as the department may consider reasonable.

"The department reserves the right to restrict or prohibit extraordinary use of water, if water supply conditions so require."

Finally, the regulation declared, "The waste of water is prohibited."

The rapid expansion of the air conditioning industry with a consequent rise in consumption of water was partially responsible for the revised regulations, according to Commissioner Goodman. More immediately responsible, however, was a nine months' drought, the worst the city has suffered for nearly three-quarters of a century. Despite the generous precipitation during the past few weeks, the city's reservoirs were reported still only 40% full.

DATA ON CONSUMPTION

While it's estimated that an average of 15,000,000 gallons a day is used by air conditioning systems throughout the year, the peak load, on a humid summer day, soars to 30,000,000 gallons.

The commissioner also explained that the department intends to be prepared, in the event of another drought and a similar shortage of water. There will, he pointed out, be less alarm aroused over such a situation when the city's new reservoirs are completed in five years. These reservoirs will release an estimated 544,000,000 gallons.

Federal Jury Charges Plumbing and Electrical Groups With Conspiracy

(Concluded from Page 1, Column 5)

to all persons who refused to follow their system. Walter J. Kohler, president of the Kohler Co., who was one of several individuals indicted, issued a statement declaring, "The policies of the Kohler company have always been independently determined and it has never had any part in or connection with a conspiracy of this sort."

Other individuals indicted include Elbert W. Verity president and Robert W. Miller, secretary, of the Heating Association. All are charged with engaging in a "wrongful and unlawful conspiracy in unreasonable restraint of interstate commerce" in violation of the Sherman Act.

All parties are accused of participating in an agreement whereby the electrical union, which controls some 14,000 electrical workers, "intentionally obstructed and prevented the purchase or shipment of large quantities of electrical starter and control equipment."

Though the overt act thus related specifically to the activities of the electrical union, an attorney for one of the groups pointed out that, under a recent law, only one overt act need be named in an indictment and that additional charges involving any or all of the defendants named may be pressed later on, during prosecution.

WILL PROBABLY FIGHT

A representative of the Heating Association stated that the Association was "doing nothing about the charge" but from other authoritative sources it was learned that the Building Trades Employers' Association, which is the parent body, has employed counsel for all groups. Other defendants are now considering whether to engage their own attorneys but all, it is said, are determined to "plead not guilty, furnish bond, and go on trial where they will deny any criminal action."

The Federal investigators based their charges against the New York associations on the close inter-relationship of the trades in practice. The electrical union is represented in the Building and Construction Trades Association of Greater New York while the associations are all members of the Building Trades Employers' Association and are thus subject to the same laws.

AIR CONDITIONING INVOLVED

"Most of the large contractors and engineers installing in the City of New York heating, ventilating, air conditioning, and sprinkler systems are members of the Heating Association and are also members of the Employers' Association, which includes numerous other associations comprising contractors and subcontractors engaged in the construction industry in the City of New York," the indictment explained.

It charged that "through concerted action," the defendants "possessed the power to restrain and burden the flow of interstate commerce into the City of New York."

March 29, 1935, was named as the date when defendants entered into an agreement enunciating certain rules governing the shipment of electrical supplies to New York City. It quoted, among others, the following rules which it claimed were part of the agreement:

CONTROL BOARD AGREEMENT

"Skeleton frames for control boards may be shipped knocked down or as a unit but shall be erected by the electrical contractor of the job."

"All wiring and current carrying parts including finished bus bars and copper connections, even though the latter come to the job bent to fit by the manufacturer, shall be assembled by the electrical contractor for the job."

This agreement, the indictment said, was later published and circulated and was "binding upon all members," the defendants having "subjected said members to expulsion from the Employers' Association if they failed to comply."

The indictment explained that prior to 1935, electrical starter and control equipment had been fully assembled and wired at factories where it was manufactured and that it was then shipped to New York City in a completed condition, ready for installation. "It is necessary," the indictment claimed, "for adequate factory testing of such control equipment to be fully assembled and wired at the factory."

With the electrical union's rise in strength and its representation on the Building and Construction Trades Association, it henceforth "refused to install in buildings electrical starter and control equipment, with the exception of individual starter and control units under 5 hp. and self-contained pump equipment under 3 hp., which had been wired and assembled in other states."

OBSTRUCTED COMMERCE

It "obstructed and prevented the purchase and shipment of large quantities of such equipment" from other states "(including the equipment manufactured, wired, and assembled by concerns employing members of other local unions of the International Brotherhood of Electrical Workers)."

It caused "such equipment to be unassembled and unwired by members of Local No. 3" and thus, the indictment continued, it "intentionally required" quantities of such equipment to be assembled and wired by Local No. 3; deterred persons in New York City from ordering and purchasing for shipment, and manufacturers outside New York from shipping such equipment; and increased costs of equipment manufactured outside of New York State.

The indictment further charged that this agreement was "entered into and carried out by defendants with intent so to restrain and burden" interstate commerce and thus "to deprive employes engaged in the manufacture, wiring, and assembling of such equipment in other states, of work and compensation, thereby diverting such work and compensation to members of Local No. 3; to divert business from the manufacturers of other states to New York manufacturers; to make and create useless work for Local No. 3; to prevent the use of cheaper, more reasonable, more efficient, and economic methods in manufacturing, wiring and assembling."

NOT LABOR QUESTION

Such a conspiracy, it was pointed out in the indictment, was not an outgrowth of an attempt to achieve collective bargaining, higher wages, shorter hours, or better working conditions.

The defendant associations, it is charged, adopted a policy requiring members to purchase only equipment that had been wired and assembled by Local No. 3. If members refused, the electricians of Local No. 3 refused to install the equipment and there were threats of sympathetic strikes and of "slowdown" tactics, the indictment said. Manufacturers in other states who refused to comply with the demands of groups here were "subjected to secondary boycotts."

Terhune To Supervise Servel Detroit Meeting

DETROIT—The commercial refrigeration and air conditioning division of Servel, Inc., will hold a sales meeting on the night of April 18 at the Detroiter hotel here, to which all members of the industry in the Detroit area are invited.

According to E. A. Terhune, sales manager of the Servel commercial refrigeration and air conditioning division who will be in charge of the meeting, the Servel plan of "mass selling" will be discussed, "which we will be glad to have anyone in the industry hear," says Mr. Terhune.

The meeting will be a miniature of the Servel annual sales meeting held in New York earlier in the year. After the sessions, which start at 7:30 p.m., liquid refreshments will be served. In addition to Mr. Terhune, Al Schmitz, Servel field engineer, and Joe Lutz, district manager, will take part in the meeting.

Here's why refrigerator insulation must repel moisture • • •

Did you ever notice how drops of water form on the outside of a glass of cold water? That's just what happens inside your refrigerator. Water vapor in the air penetrates into the refrigerator shell, strikes the cold inner liner of the box, and condenses into drops of water next to the insulation. Most insulations soak up this water by capillary attraction—even though they are made of materials which in themselves do not absorb moisture. Thus, they become soggy and wet—losing their insulating efficiency.

Dry-Zero Sheds Water Like a Duck's Back

Although moisture may get into Dry-Zero, it does not remain there. Dry-Zero is made of hard, smooth fibers that are naturally repellent to moisture (non-hygroscopic). Condensed moisture rolls off Dry-Zero to the bottom of the refrigerator, where it drains off. That's why Dry-Zero retains its heat-stopping power for the life of the refrigerator. Dry-Zero Corporation, 222 N. Bank Drive, Chicago.

You can buy Dry-Zero Bound-Batt in cut pieces, prefabricated to your exact specifications, or in rolls for cutting on the job. It is stiff enough to handle, yet flexible enough to fit irregular contours.

DRY·ZERO INSULATION

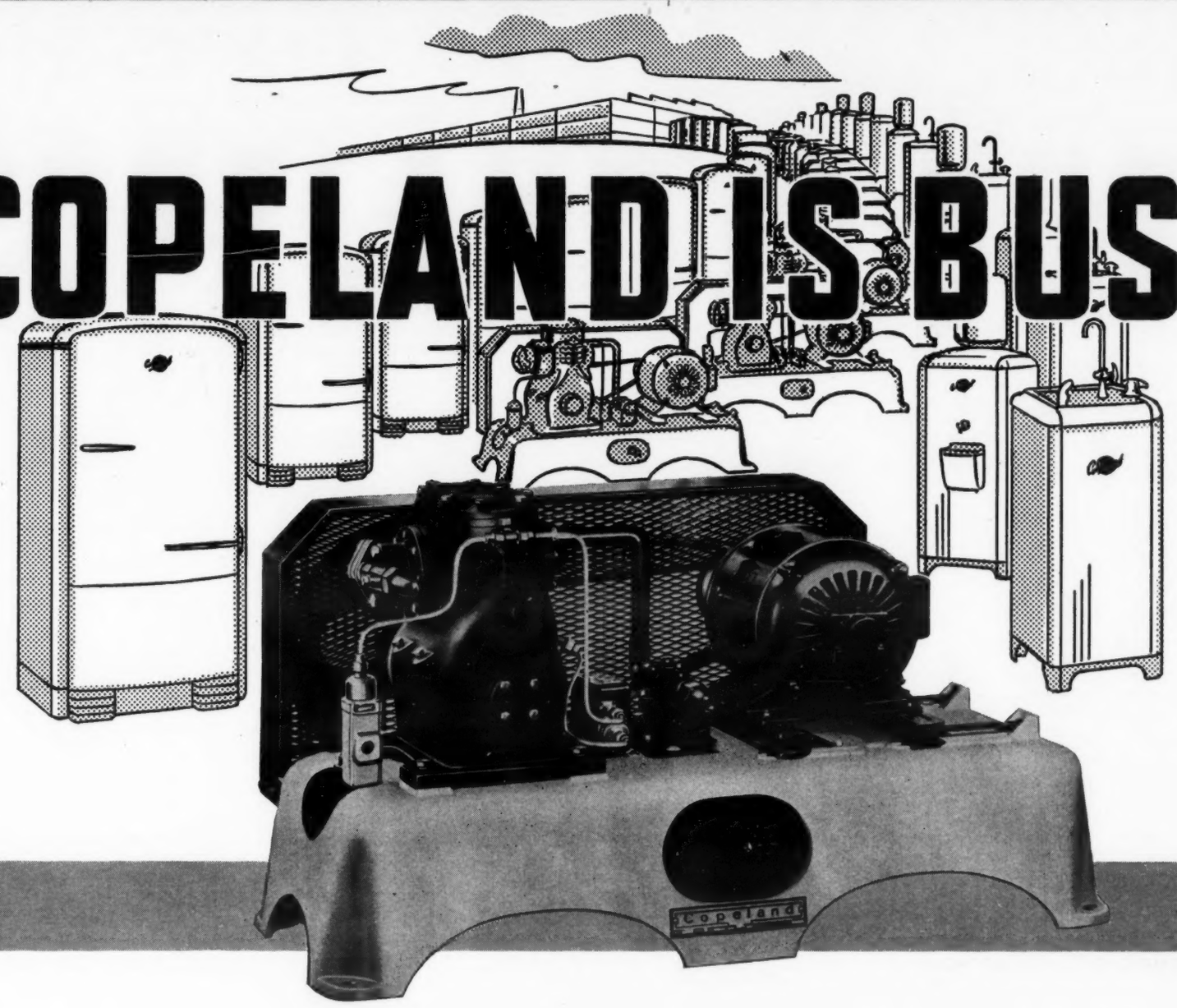
1. HIGH EFFICIENCY Dry-Zero has a "k" factor of 0.24—the lowest of any commercial insulant.

2. LONG LIFE Maintains its high efficiency indefinitely. Does not rot, pack, or absorb moisture.

3. LOW COST In the new Bound-Batt form, Dry-Zero is lower in first cost, less expensive to apply.

THREE ADVANTAGES

COPELAND IS BUSY!



. . . and here is WHY

When a company builds an outstandingly good product and renders a better service at a fair price, that company is certain to get business. That is Copeland's position right now - - - enjoying a greater acceptance than ever among refrigeration users. Distributors and manufacturers have made it COPELAND "all the way" because of unusual service and plus-value products.

Here are other contributing features:

ADVANCED ENGINEERING & MANUFACTURING Even the smallest details of Copeland equipment receive careful engineering attention. And high efficiency production methods combined with expert craftsmanship have earned for Copeland a reputation for quality and exceptional performance.

COMMERCIAL UNITS TO 25 H.P. With models ranging from ⅙ H.P. to 25 H.P., all regular refrigeration and most air-conditioning requirements may be satisfied. The advantages of a complete line by one manufacturer are obvious to anyone soliciting business for all types of commercial installations.

COMPACT, FAST-SELLING HOUSEHOLD LINE Copeland Refrigerators are built in popular models and offer new achievements in performance, style and economical operation. Priced to meet all competition at good dealer profit, Copeland Refrigerators are enjoying excellent reception.

BROADER PROFIT OPPORTUNITY By reason of the diversification of products, more avenues of sales are open to Copeland distributors. Copeland manufactures commercial units, household refrigerators and water coolers.

SOUND AND STEADY PROGRESS Consistent development in product and organization have resulted in rapid and healthy growth for Copeland. Alert to market needs, Copeland always meets them with quality products priced right.

ACTIVE OWNER-MANAGEMENT With the Copeland managing executives each having a substantial financial interest and all being active in the business, individual attention in customer relations is assured. Under such management, Copeland policies are not subject to radical changes in personnel or otherwise. This makes for stability essential in the building of mutually lasting and profitable business.

APPLICATION ADVISORY SERVICE Having specialized in electric refrigeration for over 22 years, Copeland is qualified to assist in the working out of application or product design problems. Not only is expert engineering available but also the facilities of the modern Copeland laboratory for equipment development and testing.

Considering these facts, is it any wonder that Copeland shows a 61% increase in business for the first six months of the current fiscal year, compared with same period last year?

Choose Wisely! choose...

Copeland

DEPENDABLE *Electric* REFRIGERATION

Copeland offers you an opportunity for increased and more profitable refrigeration business.

COPELAND REFRIGERATION CORPORATION, SIDNEY, OHIO

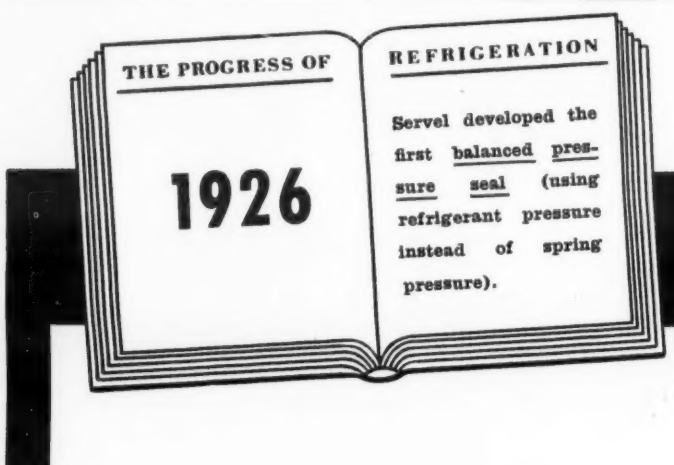
"Manufacturers of Electric Refrigeration Exclusively Since 1918"

New York Factory Branch, 27-01 Bridge Plaza North, Long Island City, New York — Export Department, 60 Wall Tower, New York

Nema Members Report Sales of 197,552 Commercial Units In 1939

The following report of commercial refrigerating equipment sales for the year, 1939 was made to the Commercial Refrigeration Section of the National Electrical Manufacturers Association (Nema) by the following 16 companies: Baker Ice Machine Co., Inc., Brunner Mfg. Co., Carrier Corp., Crosley Corp., Frigidaire Div. General Motors Corp., General Electric Co., Gibson Electric Refrigerator Co., Kelvinator Div. Nash-Kelvinator Corp., Merchant & Evans Co., Norge Div. Borg-Warner Corp., Servel, Inc., Uniflow Mfg. Co., Universal Cooler Corp., Vilter Mfg. Co., Westinghouse Electric & Mfg. Co., and York Ice Machinery Corp.

SALES FOR THE YEAR, 1939	Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value	Total World Quantity	Total World Value
1. Bottle Water Coolers—Complete	4,633	$ 309,062	32	$ 2,216	301	$ 20,912	4,966	$ 332,190
2. Pressure Water Coolers—Complete	17,696	1,757,903	130	12,350	792	83,884	18,618	1,854,137
3. Water Coolers—Low Side Only	1,043	99,474	12	591	39	2,448	1,094	102,513
4. Ice Cream Cabinets—Complete	32,217	5,008,131	1,617	241,886	1,026	141,375	34,860	5,391,392
5. Ice Cream Holding Cabinets Only (Remote)	2,383	318,790	70	8,650	48	6,956	2,501	334,396
6. Bottle Beverage Coolers—Complete	31,971	3,211,625	1,713	141,840	943	96,840	34,627	3,450,305
7. Beverage Coolers (No High Sides)	1,248	116,339	15	1,102	41	2,540	1,304	119,981
8. Milk Coolers—Complete	200	36,314	1	142	12	3,304	213	39,760
9. Milk Cooling Cabinets (No High Sides)	22	2,947	....	....	....	....	22	2,947
10. Commercial Evaporators—Not Reported Above (Including Cold Diffusers, Brine, and Other Spray Evaporators, Etc.)	28,432	1,280,452	2,233	59,355	5,904	238,581	36,569	1,578,388
11. Condensing Units Less Than ⅓ Hp.	22,438	1,021,334	346	19,139	3,996	181,002	26,780	1,221,475
12. Condensing Units—⅓ Hp.	27,948	1,711,556	517	36,404	4,771	262,148	33,236	2,010,108
13. Condensing Units—½ Hp.	15,570	1,353,548	421	39,483	2,300	209,393	18,291	1,602,424
14. Condensing Units—¾ Hp.	9,275	1,058,271	254	31,505	1,242	134,337	10,771	1,224,113
15. Condensing Units—1 Hp.	5,687	791,525	136	20,188	766	102,907	6,589	914,620
16. Condensing Units—1½ Hp.	3,414	604,058	68	12,729	543	95,636	4,025	712,423
17. Condensing Units—2 Hp.	1,729	358,960	21	4,826	252	51,592	2,002	415,378
18. Condensing Units—3 Hp.	946	257,493	16	3,867	340	61,949	1,302	323,309
19. Condensing Units—5 Hp.	451	163,509	6	2,333	37	13,426	494	179,268
20. Condensing Units—7½ Hp.	304	123,847	3	2,113	17	9,857	324	135,817
21. Condensing Units—10 Hp.	204	140,694	1	1,071	7	4,812	212	146,577
22. Condensing Units—15 Hp.	114	92,433	....	....	6	5,302	120	97,735
23. Condensing Units—20 Hp.	32	31,842	1	1,170	1	1,000	34	34,012
24. Condensing Units—25 Hp.	1	1,463	....	....	2	1,894	3	3,357
25. Condensing Units—30 Hp.	29	56,287	....	....	....	....	29	56,287
26. Condensing Units—40 Hp.	39	57,354	....	....	3	4,952	42	62,306
27. Condensing Units—50 Hp.	10	12,500	....	....	4	9,471	14	21,971
28. Total—All Condensing Units (11 to 27)	88,191	7,836,674	1,790	174,828	14,287	1,149,678	104,268	9,161,180
29a. Condensers—Sold Separately Shell & Coil or Shell & Tube	18	2,297	....	....	8	1,980	26	4,277
29b. Evaporative Type	547	53,167	524	18,363	183	11,135	1,254	82,665
30. Total—All Commercial Refrigeration	....	$20,033,175	....	$661,323	....	$1,759,633	....	$22,454,131


THE PROGRESS OF
1926
REFRIGERATION
Servel developed the first balanced pressure seal (using refrigerant pressure instead of spring pressure).

There Is No Substitute For Experience

HOW FAR?

If you take a long train ride, you *must* carry your pocketbook with you!

If you succeed in the refrigeration business, you *must* carry a consistent profit.

The Servel distributor or dealer DOES make a consistent profit because:

1—He has a Servel unit to *fit every demand.*

2—He has Servel *name acceptance.*

3—He enjoys the benefit of Servel *controlled sales policy.*

4—He can demonstrate Servel *mechanical superiority.*

5—He saves on *lower service costs.*

6—He can draw on *active, effective factory co-operation* in sales, engineering or service problems.

There may be an opportunity for greater profits with Servel in your city. A note on your letterhead will bring details. Write today to Servel, Inc., Electric Refrigeration and Air Conditioning Division, Evansville, Indiana.

SERVEL

COMMERCIAL REFRIGERATION AND AIR CONDITIONING

Commercial Sales May Have Touched 300,000 In 1939

(Concluded from Page 1, Column 3)

etc., but does not include self-contained air conditioning equipment.

25% GAIN INDICATED

In 1938 the Nema manufacturers sold 184,631 commercial units, but this figure included self-contained air conditioners. In 1939 the number of condensing units sold separately was 104,268 units, as compared with 85,839 in 1938, indicating a probable overall gain of around 20%.

Manufacturers who report their sales to Nema are: Baker, Brunner, Carrier, Crosley, Frigidaire, General Electric, Gibson, Kelvinator, Merchant & Evans, Norge, Servel, Uniflow, Universal Cooler, Vilter, Westinghouse, and York.

AIR CONDITIONING & REFRIGERATION NEWS made a special drive this year to get figures from those companies not members of the Nema group, but although a few responded quickly and willingly to the NEWS' request for figures that would be kept strictly confidential, the majority failed to submit their figures.

WHAT IS NEMA'S SHARE?

Thus, to arrive at an industry total, it is necessary to estimate what percentage of the industry's sales the Nema figures constitute. Some members of the industry put the Nema figure down as being as high as 65% of the total volume done in refrigeration units; others put it as low as 35%.

It seems reasonably certain, however, that the Nema members do by far the lion's share of the business on self-contained commercial equipment such as beverage coolers and ice cream cabinets, but that their share of the total refrigerating machines sold individually for applications in the field or in other manufacturer's equipment may be something less than 50%.

INDEPENDENTS' FIGURES

Thus it can be estimated that sales of manufacturing companies not members of the Nema group might be in the range of from 120,000 to 150,000 units, putting the grand total well over the 300,000 mark, and possibly close to 350,000.

The "independent" or manufacturers outside of Nema whose sales must be taken into account in any estimates of commercial refrigeration include Copeland Refrigeration Corp., Curtis Refrigerating Machine Co., Deissler Machine Co., Frick Co., General Refrigeration Corp., Gale Products, Howe Ice Machine Co., Mills Novelty Co., Modern Equipment Corp., Parker Mfg. Co., Super-Cold Corp., Tecumseh Products Co., Williams Oil-O-Matic Heating Corp., Worthington Pump & Machinery Corp., and Waukesha Motor Co.

SELF-CONTAINED UNITS UP

Sales of self-contained equipment, as reported in the Nema figures, held up well in 1939. Sales of complete water coolers jumped to 23,600 units in 1939 as compared with 18,600 units in 1938; self-contained ice cream cabinets were 34,800 units last year as compared with 28,800 units the year before; while beverage coolers dropped slightly to 34,600 coolers from a 1938 total of 36,400 units.

Sales Gains Shown In January and February

DETROIT—Sales of refrigeration machines for the first two months of 1940 to distributors and dealers by the members of the Commercial Refrigeration Section of Nema showed gains over the comparable months last year.

January sales of all units were 10,686 units as compared with total sales of 10,373 units on a similar basis last January.

February sales of 12,693 units showed an even larger gain over the 11,646 units sold in February of 1939.

The gains were shown in all divisions and classifications of equipment.

Dealer Group In N.Y. Files Suit Against Consolidated Edison

(Concluded from Page 1, Column 2)

Lamp Mfg. Co., R. H. Macy Co., Davega Stores, and other dealers "cooperating" with the utility in its current promotional venture.

The "bargain package" which precipitated the complaint consists of a G-E tank-type vacuum cleaner, a Proctor iron, and a lamp manufactured by the Artistic firm. It is alleged in the complaint that this merchandise offered in the utility's package promotion is falsely represented as to its true competitive value and that the methods used in advertising and resale of these items to the public under this plan violate the anti-trust laws.

The plaintiff associations have started a defense fund to protect their interests and the interests of their customers, according to Mr. Lowe, who has been named chairman of the finance committee.

Crichton Clarke, attorney for the American Fair Trade Council, and long active in anti-trust, unfair competition, and trade restriction cases, has been retained by the plaintiff groups to handle the case.

Included in the complaint was the allegation that Consolidated Edison and its affiliated system companies have used the "unique power" granted to them as "legal" monopolies in the utility field and their "tremendous financial reserve and credit power" to enter into conspiracy with the other defendants so as to compete unfairly with the plaintiffs and other independent dealers.

The complaint further charged that the conspiracy between the utility companies and the defendant manufacturers of electrical and gas appliances consisted of agreements whereby they were to "pool their advertising, goodwill, and sales promotional efforts and resources so as to cooperatively put on the market at retail" the products of the appliance manufacturers.

Marketing of these appliances, the complaint continues, was to be "at prices and under conditions of credit and service which have been refused the plaintiffs," and there was a "discrimination in price between different purchasers of commodities of like grade and quality."

Regular list prices of appliances and reductions from those prices were falsely advertised by the defendants, it is claimed.

Appliance Parts Assn. Will Meet April 27

DETROIT—The Appliance Parts Association will hold its annual meeting and election of officers April 27 at the Statler hotel in Cleveland, it was announced here last week by W. L. Cloutier, secretary.

The association is comprised of manufacturers, distributors, and jobbers of replacement washing machine and vacuum cleaner parts. The association has been in existence a little over a year.

G-E Makes Shifts In Refrigerator Line

(Concluded from Page 1, Column 4)

dishes, water bottle, and butter dish. Other features are quick ice cube trays, ice cube release lever, 12-speed temperature control which provides moderate refrigeration during defrosting, solid stainless steel freezer and door, automatic interior light, and "Tel-a-frost" indicator.

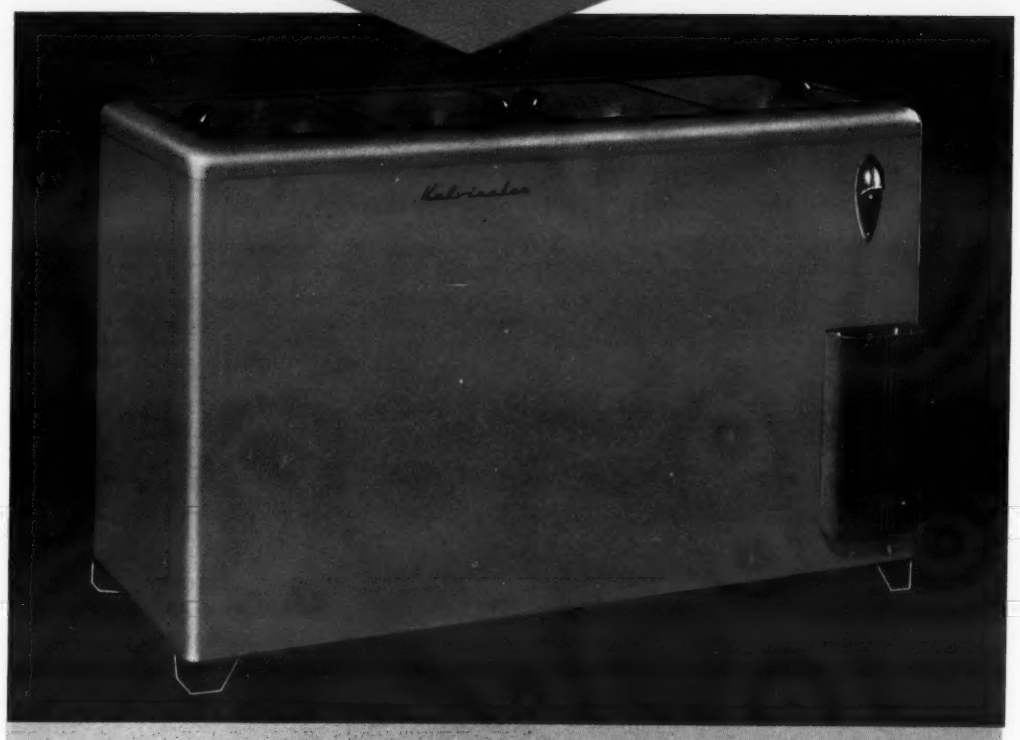
It is equipped with the standard vacuum sealed G-E refrigeration mechanism, with forced-feed lubrication, and automatic unloader.

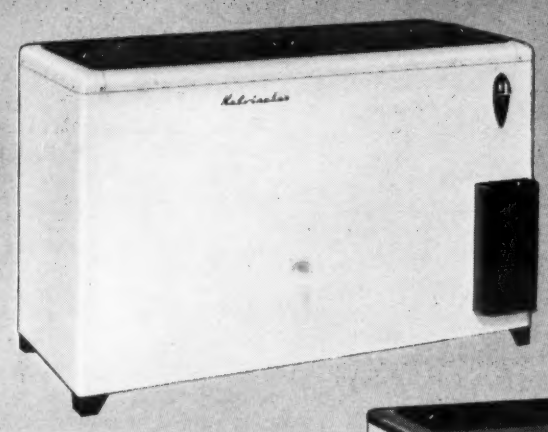
Reductions of $5 in the list prices of three present models, the LB6-40, JB5-40, and JB6-40, also were announced. Prices of these models in New York City and Detroit areas are as follows, including cost of the five-year guarantee:

	New York Price	Detroit Price
LB6-40	$139.75	$134.75
JB5-40	159.75	154.75
JB6-40	169.75	164.75

BUSINESS GETS THE GO SIGN WITH

Easy-To-Sell KELVINATORS



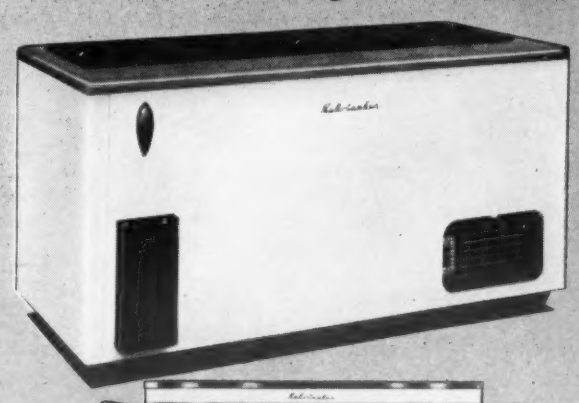


Bottled Beverage Coolers: Tightly and permanently sealed against moisture, rusting and air leakage. Cools wet or dry. Model BC266 cools 55 seven ounce bottles from 90° to 40° F in one hour, holds 266 seven ounce bottles. Model BC154, available in green or white, cools 37 seven ounce bottles from 90° to 40° F in one hour, holds 154 seven ounce bottles. All models have hard rubber lids with rubber hinges—crown receptor—one piece copper tube cooling coil soldered to *outside* of storage tub, entire tub free for bottle storage. Condensing unit in base of cabinet.

Shown above in green Model BC154

Model BC154 also available in white as shown above

Shown at right Model BC266



Look At These 6 New Additions To This Smart, Low Priced Line Of Commercial Equipment

THIS IS the line completely designed, built and tested by one company . . . and it's the best built, smartest styled, lowest priced line Kelvinator ever offered.

You can make real money with Kelvinator. You've got a name, a product and a price that batters down sales barriers and beats competition.

And here's *why* new prices are so low!

First:—These are *not* assembled jobs. They are designed, tested and completely built by Kelvinator. In itself, this effects a big saving in cost . . . a saving we pass on to you.

Second:—The facilities and personnel used in the manufacture of hundreds of thousands of household refrigerators are used in producing the commercial line. This is an advantage Kelvinator has over *many* manufacturers of Commercial Equipment. It not only means finer, precision-built refrigeration; it also means another big saving in production . . . another saving we pass on to you.

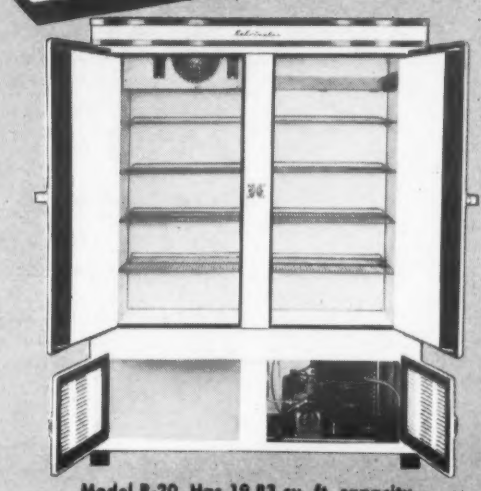
Third:—The elimination of "fringe" models—those models which have low production and hence high cost—has enabled us to concentrate our production and sales effort on the high volume items. This again lowers costs, and you get the saving.

We believe that rubber hinges on Hard Rubber lids, Sealed Cabinet Construction and other features of the beverage coolers are exclusive with Kelvinator. We believe we have the only reach-in refrigerator that gives you *both* forced air cooling *plus* a convenient, specially designed ice maker.

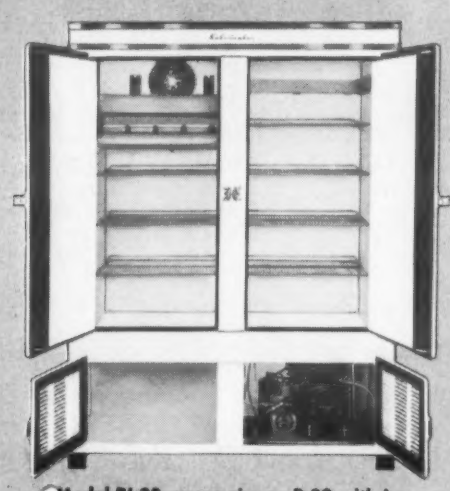
We further believe that the flexibility, durability and unusually convenient designs of all 1940 Kelvinator equipment are outstanding at these low prices . . . and unsurpassed at any price.

A three cent stamp brings you the entire, big profit-making story. Fill out the coupon now!

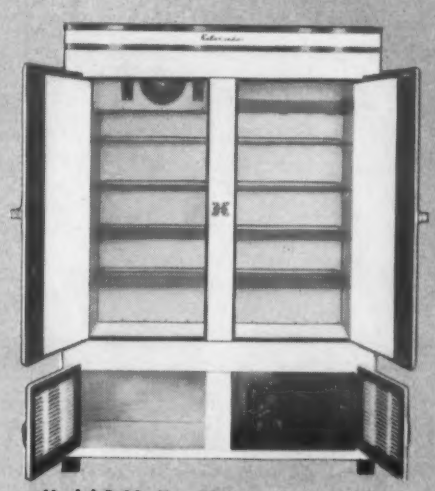
Reach-in Refrigerators: Exteriors in lustrous, long wearing Permalux (same as Kelvinator household refrigerators). It won't crack, chip or change color, and is acid and grease resisting. Interiors of sparkling porcelain-on-steel with acid resisting porcelain on bottom. Has electrically welded steel bar shelves—heavy, rust proofed steel meat rail—easily cleaned wood floor rack—forced air cooling. Ice Makers available on both 20 and 30 cu. ft. models. Condensing unit built right into the cabinet—all Ready to Run.



Model R-20. Has 19.83 cu. ft. capacity—27.6 sq. ft. shelf area.



Model RI-20—same size as R-20 with Ice Maker giving 11¼ lbs. at one freezing.



Model R-30. Has 30.4 cu. ft. capacity—38.5 sq. ft. shelf area.

KELVINATOR

The Complete Line —Completely Built By One Company

26 Years of Success in

REFRIGERATION

Commercial Sales, Kelvinator Division, Nash-Kelvinator Corporation, Detroit, Michigan

Gentlemen: I want to know more about selling the new Kelvinator Commercial Line.

*Name*_____

*Firm Name*_____

*Address*_____

*City*_____ *State*_____

K-91

New Dallas Dealer

LEWIS G. SPENCE

• • •

Lewis G. Spence Handles G-E Commercial Line

DALLAS, Tex.—Lewis G. Spence Co. has been appointed dealer in Dallas for General Electric air conditioning, automatic heating, and commercial refrigeration equipment, and distributor of these products over a wide area of north, west, and central Texas.

Lewis G. Spence, head of the company, prior to his entry into the refrigeration field was for 21 years in the cotton business here, holding membership in the Dallas Cotton Exchange, and later was a distributor for one of the country's leading distilleries.

Sales manager of the company is John F. Marion, who has been in the G-E organization for the past eight years in Dallas, Cleveland, Fort Wayne, Ind., and Schenectady, N. Y.

Engineering, installation, and service operations will be under the direction of A. C. LaGow, who formerly held a similar position with the Murray Co. here. Territory outside of Dallas will be traveled by Paul E. White.

In addition to the complete G-E air conditioning, heating, and commercial refrigeration line, the Spence organization will handle Puffer-Hubbard display cases and beverage coolers, Johns-Manville products, and a line of attic fans for installation in homes.

Territory to be covered by the company as distributor reaches east from Dallas approximately 50 miles, along a line ranging from the Oklahoma line obliquely to that of Louisiana at a point about half way across Texas, from north to south. To the west it covers about 400 miles at its maximum, cutting north to the Oklahoma line along the Panhandle.

New Dealer—New Store

AYNOR, S. C.—W. B. Carroll has been appointed General Electric dealer in this vicinity. Mr. Carroll is building a new store in which to house his appliance operations.

Reinbold To Head Up 'Koldrink' Activities

CINCINNATI—E. Reinbold has been appointed manager of the beverage bottle cooler division of Crosley Corp. Widely known in both the manufacturing and distributing branches of the beverage industry, Mr. Reinbold for the last four years was in charge of beverage cooler sales for Crosley Distributing Corp., Chicago.

Educated in Europe, Mr. Reinbold was first associated with the De La Vergne Engine Co. of Philadelphia, manufacturer of large industrial refrigerating equipment. During the past 10 years he has made an exhaustive study of the bottle beverage industry, and is credited with designing some of the well known beverage coolers now on the market.

'Chickens As You Like Them' Made Possible Through Sharp Freezer

KANSAS CITY, Mo.—Installation of a small sharp freezing outfit for the Cordsen Indoor Poultry Plant in Hickman Mills, Mo., has enabled the chicken ranch to hold in storage for its customers with exactly the kind of chicken that the customer wants.

Copeland Refrigeration Co. of Kansas City made the installation, Nathan Baraban being in charge of the job. The small sharp freezer has 35-cu. ft. capacity, with refrigeration furnished by a ⅓-hp. Copeland condensing unit. An average of about 70 chickens per day is frozen with this equipment.

By the installation of this sharp freezing and storage system the Cordsen poultry plant is in a position to supply at any time chickens of the various sizes demanded by its trade. Each day the chickens are weighed, and when the chicken has reached the desired weight, it is killed and stored in the cooler, carefully designated as to its weight.

Officials of the company declare that the freezing and storage features have brought a 25% increase to the business, and have given Mr. Baraban a contract for a larger cooler, which will be approximately 5 x 5 x 8 feet high, providing a freezing capacity of 150 chickens and a storage capacity of 1,000 chickens.

Other favorable factors from the standpoint of the chicken ranch owner are that the killing can be done while employes are not busy with other duties, and service to the customers is speeded up because the chickens are ready to take out.

New Rex Display Cases Are Sold Complete

MARSHALL, Mich. — Announcement of the "Rex" line of refrigerated display cases has recently been made by the Rex Equipment Co., here. The new display cases, which are available in 6 foot and 9-foot sizes, and being manufactured in the Marshall plant of the Anderson Coach Co., builders of house trailers.

Rex B. Anderson is president of the new concern; A. J. Barron, formerly associated with the Starr Freeze Co., is vice president in charge of sales; and Giles G. Boles is secretary.

The "Rex" display cases are sold with Dulux or porcelain finish. The Dulux line is equipped with Mettrex expansion valves and Rempe coils; the porcelain line uses Peerless coils and Detroit Lubricator expansion valves. Fluorescent lighting is used on all models.

Thermo-pane glass, which consists of two sheets of plate glass having a metal edge seal are used on the cases, which are supplied with a built-in Copeland compressor. Designed as a package to be "plugged-in" on the owner's electric circuit, the refrigerators are being delivered by a special trailer which is also used in sales and promotion work.

Johnson Service Co. Nets $466,734

MILWAUKEE — Johnson Service Co., manufacturer of temperature control equipment, reports a net profit of $466,734 in 1939 against $348,172 the previous year.

Sales in 1939 increased about 5% over the previous year. Dividends of $2 per share, totaling $400,000, were paid last year against $1.50 per share, or $300,000 in 1938. All officers and directors of the company were re-elected.

Heads Copeland Service

D. H. BODINE

Just appointed national service manager for Copeland Refrigeration Corp., with headquarters at the factory in Sidney, Ohio. He has had more than a dozen years experience in refrigeration.

Commonwealth Edison Adding More Lines On Commercial

CHICAGO—Carrier commercial refrigeration equipment will be sold by the Commonwealth Edison Co. here under an arrangement recently completed with Don Weatherby, commercial refrigeration manager of the utility. The company will continue to sell the Kelvinator line of commercial equipment, but in following a policy of diversification, will handle more than one manufacturer's line.

Brunswick "Blue-Flash" beverage coolers and table-top refrigerators are also being marketed by the company.

Four lines of room coolers, including York, General Electric, Frigidaire, and Carrier, will be sold by the utility this year.

Carrier Names Mooney District Dealer Manager

CHICAGO—Mark E. Mooney has been promoted to the position of branch dealer manager for the Chicago district of Carrier Corp., according to a recent announcement by H. G. Strong, district manager. Mr. Mooney, who has been in charge of commercial refrigeration equipment

MARK MOONEY

for several years, will supervise dealer activities in the St. Louis and Kansas City districts, as well as in the Chicago area.

John Field, who was formerly associated with R. Cooper Jr., Inc., will handle commercial refrigeration activities in the territory served by the Chicago branch.

DEPENDABLE AIR CONDITIONING (A-P) Controlled

Dependably Air Conditioning the Stone Shoe Store, Cleveland, Ohio, is the 14 ton Carbondale Compressor installed by the Avery Engineering Company. Valves sold by Harry Alter Company.

"Those are trim slippers, Joan. Where did you get them?"

"Why, at Stone's, of course! I get all my shoes there. The store is air conditioned, Marge, and it's a pleasure to shop there."

No. 270 Solenoid Valve. New Departure in Solenoid construction. 18.5 ton Liquid Line Capacity at 6 pound drop across the valve.
Positive, quiet operation. Manual opening stem in case of current failure. Water-proof and frost-proof coil construction. Increased capacity due to pilot operation.
Model 270 is a Dependable A-P Product.

In retail stores all over the country, A-P Solenoid and Expansion Valves are doing daily duty — DEPENDABLY controlling fine Air Conditioning Installations.

Dependability is built into A-P Valves for ONE reason only — to help YOU make more money. There are many ways to make money, but none is better than a long list of steady, satisfied customers!

A-P Valves help you to keep ALL your customers satisfied. Insist on A-P Valves on ALL your installations.

• Progressive Service Men use and recommend — and Aggressive Jobbers Stock and Talk — A-P Products. •

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY — SECOND STREET
MILWAUKEE (A-P) WISCONSIN
Export Department 100 Varick Street, New York City

FOR
BEVERAGE COOLERS
use SPORLAN
Type H Thermostatic Expansion Valves and Type 10 Solenoid Valves
for Peak Performance

I'm Bringing YOU Business!

Every house needs **Westinghouse**

GREATER STORE TRAFFIC is the first objective of the "Advise-a-Bride" Program. All advertising directs the reader to dealers' stores. Tie in with this "stopper" window display.

PROSPECTS MUST COME TO YOU for their free entry blanks. Get them to "register" when they come in! You'll find many are good prospects that can be followed up and *sold*.

TRADING UP is made easier because attention is focused on the higher-priced models during the contests. This means bigger units of sale, *extra dollars* for you.

NEW WESTINGHOUSE "ADVISE-A-BRIDE" CONTESTS OPEN DOOR TO BIGGER REFRIGERATOR SALES AND PROFITS

You've a *date* with this girl . . . and *April 18th* is the day. Then for *five consecutive weeks* she's going to work for you—bring you dozens, possibly hundreds, of "live" refrigerator prospects. Not only will she "bring 'em in," but she'll help you *sell* them—and many will be the more expensive, more profitable models. Who is she? Why, the Westinghouse Bride, around whom the year's most spectacular refrigerator promotion has been built.

Nearly *half a million dollars* will be spent to put this young lady over—in magazines, radio, newspapers and displays. Another $23,000.00 in prizes will be given away *free* in the most simple, most practical contest-program ever developed. It's a *retailer's own type* of promotion—free from red tape, and with a whale of a sales "kick." Your Westinghouse Refrigerator Representative will be glad to give you all the details. But, you'd better act NOW! Here's one "bride" that's going places . . . and how!

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY • DEPT. 108 • MANSFIELD, OHIO

★ TUNE IN "MUSICAL AMERICANA", THURSDAY NIGHTS, N. B. C. BLUE NETWORK

Westinghouse Refrigerator

The Pacemaker... now Faster for '40!

PERSONALITIES

By George F. Taubeneck

Recap

In this department last week we did something which was long overdue: we took our first hard, searching look at the Sears-Roebuck refrigeration picture.

Most people have been so continuously incensed about Sears in this industry that they haven't bothered to see if there was anything else in the program other than low prices. That there are several things worth knowing about that operation was demonstrated last week, and again this week on the editorial page.

One of the important things that everybody in the industry should know, for instance, is the hitherto unpublished information that Coldspot is making a change-over this year from "unsealed" (open-type) to sealed units. Only about one in five 1940 Coldspots are equipped with the sealed unit, however.

Other useful or interesting tag-ends of information on this operation follow.

* * *

Cabinets By Seeger

Like so many other big manufacturers in the business, Coldspot got off to a good start by using Seeger cabinets. Seeger's reputation for building good cabinets has been high for years, and the big Minneapolis concern has been the main source of supply at one time or another for most of the industry's giants.

In its earlier days, Sears executives had the idea that they could always obtain cabinets from a number of different sources. It was intended that several different factories, well distributed geographically to provide freight savings, might supply Sears stores with the boxes for the Rotorite units.

But pressure from manufacturers using all-steel cabinets became too strong, and Sears had to go to all-steel cabinets, also. This meant that Seeger received the entire contract for a while. The smaller cabinet makers on the list simply didn't have the facilities for stamping out all-steel refrigerators.

Other Cabinet Sources

Two years ago, the Sears people decided to put up a cabinet plant of their own, and Sunbeam (in which Sears has a substantial financial interest) erected a factory adjacent to the Sunbeam compressor plant in Evansville.

Last year this plant turned out close to 125,000 cabinets. This year that figure may be upped by 50,000. Seeger will supply the rest of the 375,000 Coldspot refrigerators which Sears hopes to sell in 1940. (At present rates, it would appear that this mark will not be reached.)

A third cabinet source is Rex, at Connersville, Ind. This concern makes only 4-cu. ft. boxes for Sears—and there aren't very many of them sold.

With this small box and the sealed unit Sears has been angling for some of the government housing project business—so far without success. Also they have hoped to crash the gate into the apartment house market—and again without much luck.

* * *

Associate Dealers

Did you know that there are a number of independent dealers selling Sears appliances? Well, there are—about 24 of them, scattered through Ohio, Indiana, Michigan, Illinois, and Wisconsin.

They are known as Sears Associate Dealers, and their operation has been kept pretty quiet. At least, the writer has been unable to get much information about them as yet. Apparently it was an idea which hasn't worked out too well.

After failing to contact R. J. Schindler, who heads up the department, the writer went up to see the Sears Associate Store at Coldwater, Mich. Joe May is in charge, and Oral Marquette is the salesman.

In addition to Coldspot refrigerators, which are sold at the same prices as quoted in the Detroit Sears stores, Mr. May handles radios, ranges, laundry equipment, vacuum cleaners, lighting fixtures, batteries, and plumbing supplies. This latter branch of the business seems to be developing fast.

They work on a 35% margin, and claim that business is excellent, although Mr. May wouldn't give any figures. Before opening the Sears Associate dealership in Coldwater, Mr. May was in the appliance business in Grand Rapids.

* * *

Absorption Units

Mr. May demonstrates his independence in at least one direction: He refuses to stock the Coldspot kerosene-operated refrigerator. It's listed in the catalog, and you could order one through him, but so far nobody has. He just hasn't told anybody about it, although Coldwater—a country town—should provide leads.

But Mr. May, like Grampaw in "You Can't Take It With You" with reference toward the income tax, "doesn't believe in it."

It may be that Joe May has heard about some of the troubles Sears has had with its absorption job. More than $1,000,000 has been sunk in that operation already, it is reported.

Before Louis Ruthenburg took the reins at Servel, Sears was able to sell the Electrolux kerosene unit. But Mr. Ruthenburg ended that deal. (He says, incidentally, that never before or since has he been subjected to such "reverse sales pressure" as he was when everybody from Herman Price to General Robert E. Wood descended on him to try to convince him he should continue to sell through Sears.)

After that, because there was such a demand for the kerosene jobs, Sears took over and financed the Allyne laboratories of Cleveland in their research on absorption refrigerators.

It was a hard row to hoe, as anybody who has ever tackled absorption refrigeration well knows. Several times they thought they had it. Refrigerators would be built, sent out, installed, and watched. They always came back.

Now, however, most of the difficulties appear to be ironed out (or so they claim). Coldspot kerosene units (5½ cu. ft.) are advertised variously at $174.50, $189.50, and $199.50.

These refrigerators are made in Cleveland by the Midland Steel Co. John Lithgo is the chief engineer.

It is said that they are now testing these absorption units on bottled gas and natural gas operation, with a view toward getting into active competition with Electrolux next year.

(Other members of the refrigeration industry would have the same feeling toward a knock-down-and-drag-out fight between Coldspot and Electrolux as most Americans would regarding the occasionally proposed war between Japan and Russia—no matter who got hurt, they'd love it.)

Sears-Roebuck is said to have grossed $37,000,000 on Coldspot refrigerators last year. What the profit on that operation was is a matter which is open to considerable conjecture.

Some claim that the Coldspot is used as a non-profit promotional item by the Sears stores. Others say that, even so, Sunbeam has made plenty of money, and Sears has shared in those profits.

However, it seems reasonable to assume that the business is profitable in one way or another, for the parent firm is coining plenty.

Merchandise sold and profits earned by Sears, Roebuck & Co. in the year ended Jan. 31 were the largest in the 54 years that the company has been in business, according to its financial statement.

The previous high level in sales and earnings was reached in the 1937 "recovery" boom. In both 1937 and 1939 the business of the company was larger than in 1929, which was the all time peak year for most corporations in the merchandising field and in other lines.

The following figures give a summary of the company's 1939 operations with comparable 1938 figures:

	1939	1938
Net sales	$617,414,266	$501,676,644
Net profits	37,255,274	23,354,364
Profit per share	6.60	4.18
Dividend paid per share	4.25	3.00
Total payroll	96,088,000	78,171,000
Inventories, Jan. 31	112,584,216	94,857,019
*Taxes	18,818,983	13,271,534
Taxes, $100 sales	3.02	2.65
Cap. expenditures	11,671,361	7,596,402

*Does not include taxes collected but not borne by company, such as social security and sales taxes. These amounted to $7,180,536 in 1939 and $5,751,729 in 1938.

The more liberal credit policy adopted by the company on time payment sales was an important factor in the growth of the business last year. Purchases of $10 or more may now be financed on time payments through the retail store or the mail order division.

The company itself finances the instalment sales by placing part of the time payment paper with banks.

Story In a Picture

There's a romantic story in this picture, which was snapped by the editor just before entering the Sunbeam plant at Evansville, Indiana. A decade or so ago Sunbeam manufactured locomotive headlights, like the one on the engine steaming into the picture. Came the depression, and no locomotive headlight market. To turn a few wheels in their plant, they started making up J. H. Dennedy's little refrigeration unit, the Rotorite. After small beginnings, this business not only built up to Sunbeam's best previous grosses, but increased by more than 30 times!

Hornless Herman

This photograph of Herman Price, manager of Sears-Roebuck's electrical appliance department, definitely proves that he doesn't wear horns, despite rumors to the contrary. Price's prices have made him one of the most cussed individuals in the business.

Here are the three men who have made it possible for Sears-Roebuck to become a factor in the electric refrigeration business. They are, left to right: J. H. Schroeder, vice president; W. A. Carson, president; and J. H. Dennedy, chief engineer, of Sunbeam Electric Mfg. Co. Their concern manufactures all the refrigeration units and approximately half the cabinets used by Sears in their Coldspot refrigerators. Mr. Dennedy is one of the true pioneers of the refrigeration industry, his experience covering three decades, including early-days association with Frigidaire, Kelvinator, and Servel.

Sez Charley Wilson To Charlie Wilson

Charles E. Wilson (left) is executive vice president of the General Motors Corp. Charles E. Wilson (right) is president of the General Electric Co. They are not relatives, nor do they remotely resemble each other except in the fact that each is one of the most important industrial executives in the country. To add to the confusion, a third Charles E. Wilson is vice president of the Worthington Pump & Machinery Corp.

$200 Job Is Biggest Seller

Philco has already sold more refrigerators this year than the company produced in all of 1939, officials of the company claim. Even more interesting is their declaration that the biggest seller in their line is the LH-6 (shown above), a deluxe model which retails for more than $200.

I'M GLAD THE BOSS SELECTED THE COMMERCIAL CREDIT PLAN

"It Helps Me Sell — Keeps My Customers Sold"

"I'VE SOLD hundreds of appliances on the instalment plan. That's how I know there is a lot of difference in finance plans, and in the folks that offer them.

"Here's why I'm interested. Most of my commissions come from time sales. I naturally want these customers coming back to me for other appliances. Maybe I am selfish, but I want more sales—and more commissions. So, I'm particular about the finance plan and the finance company I recommend.

"With the Commercial Credit Plan we've got very low rates and liberal terms for the customer. The Plan also provides for Combination Sales, Farmer Sales, Short Term Note Sales and 'Add-On' Sales. Most finance plans have some, but none have all the features offered under the Commercial Credit Plan.

"There is the personal angle, for instance. To do the job right a finance company—like a salesman—must know human nature and how to deal with people. They must be cooperative. They must be *considerate* of deserving people and play ball with them when circumstances justify it. That's another reason why my customers and I like the Commercial Credit Plan.

"The boss is naturally profit-minded. He likes the safety features of the Commercial Credit Plan because we have fewer repossessions. Commercial Credit also gives him a cash reserve on each time sale to protect him against loss on his time sale profits. That's their new Dealer Reserve Plan. Why not tell *your* boss about it."

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COMMERCIAL CREDIT PLAN
THE PAY-WAY THAT FITS YOUR PAY-DAY

SERVING THE APPLIANCE INDUSTRY FROM COAST TO COAST

Temperature Differential Big Problem In Refrigerator Car Cooling, Says Lindvall

LOS ANGELES—Discussion of some of the problems of forced air circulation for refrigerator cars was presented by Dr. Frederick Lindvall, associate professor of electrical engineering at California Institute of Technology and consulting engineer for the Pacific Railway Equipment Co. at a recent meeting of the Los Angeles section of the American Society of Refrigerating Engineers. D. deFremery, chairman of the section, presided at the dinner gathering.

Explaining the development and operation of the fan cars now used to some extent by the railroads, Dr. Lindvall pointed out that while experiments on forced air circulation have been conducted over a period of many years, it is only recently that some of the mechanical problems have been overcome.

Temperature differential, he said, has been one such major difficulty. On many shipments refrigerated with ice in the bunkers, with no fans used, there has been as much as a 30° F. difference between top and bottom of the load, equivalent to .001 of an inch water pressure. This meant that frequently the market would pay higher prices for the bottom of the load than for the top when the product reached its destination. Precooling was found to be the way to decrease materially the differential, the professor explained.

It was further pointed out that due to the necessity of piling the product low in order to get air through it satisfactorily, not more than one half to two thirds of the car space has been utilized. In tests of fan circulation it was discovered, Dr. Lindvall reported, that with melons the load could be increased by two thirds with a consequent saving for both shipper and railroad. In shipping precooled citrus piled three boxes high instead of the usual two boxes, top and bottom temperatures remained very nearly uniform during the transportation period, he stated.

In designing the equipment for forced air circulation it was found most economical to drive from an axle or wheel, Dr. Lindvall continued, though some success was attained with vertical fans run by windmills outside the car.

Difficulty of securing replacement of axle-drums after a car's visit to the repair shop led to a decision to mount all take-off equipment on the body of the car where it would be unmolested. This equipment consists of a composition friction wheel contacting the car wheel in a V-belt drive to the horizontal lower shaft, with the friction wheel held to the car wheel by a spring. Dr. Lindvall said it is claimed this device will work satisfactorily on a 30° curve.

Because of dirt, moisture, and salt, much difficulty was first experienced in maintaining the bearings, shafts, fans, and other parts of the assembly underneath the floor racks. Finally sealed ball bearings were used, with equipment so designed that it could easily be cleaned or washed out. The fan shaft extends outside the car so that a motor can be attached to it by a V-belt drive, either for precooling a car or for holding when the car is motionless.

Average speed of freight trains across the continent was found to be about 20 miles per hour, declared the speaker, so the fans were designed to operate at this speed. They are, however, capable of operating without breakdown or vibration at 90 miles per hour, he said.

Fan blades are radial so that regardless of the direction of the car the fans discharge air toward the center of the car underneath the floor racks. With a fan shaft at each end of the car underneath the racks, and each shaft controlling seven fans, each set is calculated to deliver 1,500 c.f.m. at 40 miles per hour.

Insufficient supply of fan cars prevents the use of these fans for precooling at present, Dr. Lindvall declared. He said it is claimed that fan equipment in the cars adds about 8% to the car cost.

Chicago Code Discussed

CHICAGO — Discussion of the Chicago refrigeration code featured the meeting of the local section of American Society of Refrigerating Engineers March 28 in the Drake hotel. Speaker was Gerald Gearon, mechanical engineer of the department of boiler and refrigeration inspection, City of Chicago.

Round table discussion on code requirements and applications for Chicago followed Mr. Gearon's talk.

At left—1½ h.p. Air-Cooled Condensing Unit. Other sizes from ¼ to 5 h.p.
Below — 5 h.p. Water-Cooled (Counterflow) Condensing Unit. Other sizes from ⅓ to 5 h.p.
1/6 to 1/2 h.p. Self-Contained Condensing Unit
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"Plus-Profits Value
The Line That Meets All Requirements From 1/6 to 30 H.P.
CURTIS
CONDENSING UNITS
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15 h.p. Cleanable Shell and Tube Condensing Unit. Other sizes from 3 to 30 h.p.

The completeness of the Curtis line is your assurance that you can meet practically every demand of commercial refrigeration with Curtis Condensing Units. There are 45 Curtis air-cooled units from 1/6 to 5 h.p. inclusive, and 47 water-cooled units from 1/3 to 30 h.p. inclusive. All models available for either Freon (F-12) or Methyl Chloride. This means more orders to produce more profits.

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- Unusually large receivers and condensers

In addition to standard type units, there are specially mounted Curtis units for household use, ice cream cabinets, self-contained units for cases, refrigeration in transit, beer pumps.

Long experience, advanced engineering, precision manufacturing methods and the use of only the finest materials insures the exceptionally dependable, trouble-free and economical performance of Curtis units. Behind every Curtis product is Curtis' 86 years of successful manufacturing and engineering experience and the Curtis tradition of fine quality throughout.

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Air Conditioning—In addition to a complete line of Condensing Units, Curtis also offers Packaged Air Conditioners in five sizes—3, 5, 7½, 10 and 15 tons capacity.

For full information on how the complete Curtis line leads to bigger sales and profits, write to Curtis today.

Taxidermy Shops Offer An 'Unsuspected' Market For Ice Cream Cabinet Sales

By James McCallum

DETROIT—Are you looking for a new market for ice cream cabinet sales? If so, drop in at your nearest taxidermy shop.

This may sound like queer advice, but there are at least two taxidermists here who, to use their own words, "don't know how they ever managed to get along" before they bought this type of refrigerating equipment.

One of the big problems in taxidermy, it seems, is the highly seasonable nature of the business. Most shops are literally swamped with work during and immediately following the various fishing and hunting seasons, while practically no new work comes in during the slack periods.

Standard practice, therefore, is to keep as nearly abreast of incoming work as possible, but when the going gets too heavy to hold over the excess work to fill in the slack periods.

Obviously, then, the taxidermist must find some means of preserving the specimens which he decides to hold for future work. Some shops have ordinary household refrigerators, but specimens can be kept in these only two or three days at the most. Most shops solve the problem by packing the excess specimens in boxes (small game such as squirrels or pheasants average about 20 to 30 pieces to the box) and storing them in a commercial cold storage plant.

STORAGE PROBLEMS

Even this system has decided disadvantages, though, because of the fact that specimens must be removed from storage, not carcass by carcass but box by box. And once a box is taken out of the plant, the taxidermist must work quickly and long, sometimes even nights as well as days, to mount all of the specimens in that box before they commence to deteriorate.

Not only that, but many states have laws restricting the length of time which any game can be kept in cold storage plants after the close of the season for that particular type of game. This again bunches the taxidermist's work and results in many rush jobs in which the quality of work is perhaps not up to the shop's usual standards.

Looking for a way in which to circumvent all these difficulties, Richard Mizner, local taxidermist, asked Don Graubner of Graubner Dairy Co., where Mr. Mizner had been storing some of his specimens, if there wasn't some way in which he could provide adequate refrigeration facilities in his own shop.

Mr. Graubner, who also sells commercial refrigeration equipment, immediately realized that here was opportunity staring him right in the face. He went into action immediately, and in no time at all had sold Mr. Mizner a three-hole Kelvinator ice cream cabinet.

'NOT BIG ENOUGH'

Mr. Mizner has used this cabinet through two or three seasons, now, and his only complaint is that it isn't big enough. "Actually," he said, "I don't see how I ever got along without it. In fact, I don't see how any taxidermist can operate successfully without some similar arrangement.

"I can keep anywhere between 25 and 40 specimens of small game in this cabinet for any length of time I desire," he explained. "All I have to do is to take them out a few hours before I want to start work on them, so that they can thaw out.

"And as for operating cost, there's no comparison with commercial storage fees. Why one season I remember I had 40 boxes in a cold storage house, and my storage bill for that season alone would have practically paid for this cabinet."

Another enthusiastic booster for the ice cream cabinet method of specimen storage is A. M. Hilde, who is in charge of the taxidermy work at the Paul H. Young shop. This shop bought a four-hole Kelvinator cabinet only last fall, and already has developed a "couldn't do without it" attitude towards it.

Like Mr. Mizner, however, Mr. Hilde claims that this cabinet is not nearly big enough to satisfy the shop's needs, so construction of a walk-in cooler is being seriously considered.

Case Designed By Market Operator Loads From Inside; Leaves Ample Space Back of Counter

LOS ANGELES—Something somewhat different in the way of refrigeration for small meat departments or delicatessens appeared here with a new installation in Tobin's Ham Shop made in connection with the large scale renovation program of the Grand Central Public Market, one of the nation's largest food marts.

Designed by Nathan R. Tobin, the operator, and built to his specifications by a commercial refrigeration manufacturer, the new case accomplishes several things, one of the most important of which is providing a clear back-of-the-counter working space by means of inside loading.

Set at the back of the shop, the refrigerator has compartments designed to hold surplus stocks of merchandise displayed to the public directly in front. Above this is an inset ledge deep enough to accommodate cash registers and scales and to provide wrapping and working space.

Directly above this is additional display space to which sliding glass doors give access. Still higher, and reached only from inside, is storage space for hams and slower moving merchandise.

The lower supplementary stock chambers have direct refrigeration from the unit, and the doors on this part of the equipment have an unusual catch which also is Mr. Tobin's development; in operation, instead of having a fixed position, the handles may be put in and used from a horizontal or an up or down position.

The upper storage section, which has no outside doors, likewise receives direct refrigeration. The upper display sections, however, are cooled only by a small vent leading into the cold back chamber. This part of the case must be loaded from the front.

With his new equipment, Mr. Tobin reports it is necessary to replenish supplies in the lower chambers only about three times a day in place of former frequent reloading. Entrance to the unit is made in a side aisle so that there is no blocking of traffic in the heavily trafficed main aisle, nor cutting off of customer counter inspection.

Reaching several feet above the heads of clerks, and more than a dozen feet long, the case is really six-sided, for the corners have a long bevelling off. Finish is stainless steel.

$25,000 Produce Storage Plant Built In Jackson, Miss.

JACKSON, Miss.—An all-purpose meat and vegetable storage plant, complete from meat curing rooms to refrigeration locker storage facilities, has just been installed at a cost of $25,000 by Brackett's locker storage and meat plant.

The locker rooms contain 500 large metal lockers. The plant receives a farmer's meats, processes the animal, from curing to cutting into various sections, and then stores it in the locker for future use. Vegetables and fruits are stored in the same manner.

The plant can handle over one million pounds of produce a year.

New Freezing Facilities

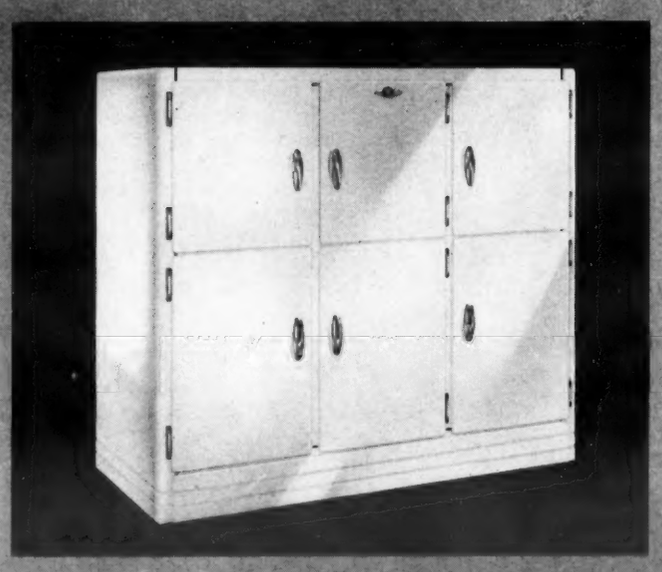
ST. IGNACE, Mich.—Great Lakes Frozen Fish Corp. is erecting a 94 by 180-foot building here for the fast freezing of fish and fruits.

SEEGER AC 65

AIR Conditioned

ALL Porcelain

a REAL Buy



The AC65 . . . A new model in America's most outstanding and complete line of Commercial Cabinets for every type of Store, Restaurant or Institution.

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SEEGER REFRIGERATOR COMPANY
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NEW YORK CHICAGO BOSTON LOS ANGELES

'All Purpose' Counter Unit Does 3-Fold Cooling Job

COLUMBUS, Ohio—R. P. Scott, commercial refrigeration manager of Bard, Inc., General Electric distributor here, has widened his market by adapting his product to fit the need, developing a new "all-purpose" counter unit for restaurants.

Columbus has a great many small restaurants, "pullman diners," "coffee pots," etc., which have three main refrigeration needs: for cooling beverages, for storing a relatively small amount of foodstuffs, for drinking water.

Mr. Scott learned that in many cases these establishments were meeting their needs with some sort of icebox in which to keep food, at a cost of from 10 to 15 cents per day for ice. They also use a small ice beverage cooler, which costs them another 10 or 15 cents a day for ice. And then they generally have some kind of an ice water cooler, which costs them still another 10 or 15 cents a day for ice. Thus their total cost may be from 30 to 50 cents per day, and in addition the results are often bad.

Bard's commercial manager took a General Electric TM-34 beverage cooler and fitted it with a dry storage compartment at one end and a water coil with glass filler at the other, thus developing a single unit to meet all the needs of the small restaurant.

Furthermore, he figured he could sell these units with a relatively low 10% down payment, and a meter plan for the balance. This came to 25 cents per day, which is under the minimum that the restaurant owners pay for ice each day.

The idea has brought real results in terms of actual sales. The restaurant owners like it because the first-class equipment dresses up their place, and the single unit gives much better results, and also occupies less floor space.

Meat Storage Subsidy O.K.'d By Cuban Govt.

HAVANA, Cuba—A subsidy of 50,000 pesos for the construction of an abattoir equipped with facilities for the refrigeration of meat and the manufacture of corned beef has been approved by the Cuban cabinet.

This subsidy relates to an application by the Havana Livestock Co. (Compania Ganadera de la Habana) for a subsidy of $117,361.19 for a plant with a packing capacity of 600 cases of corned beef daily.

Pleasantaire on West Coast

SAN FRANCISCO—Unit air conditioning equipment built by Pleasantaire is now on display at the Western Merchandise Mart, reports Wallace R. Lynn, district manager.

J. J. Perlmuth, district manager, is introducing the company's equipment to distributors in southern California and the Pacific southwest, from headquarters in Los Angeles.

Midwest Ups Production Of 2 Most Popular Reach-In Models

GALESBURG, Ill.—Midwest Mfg. Co. is stepping up production on its models 25 and 30 reach-in cabinets, which are proving to be the largest selling models in the Midwest line, reports J. C. Battles, sales manager.

Specifications on model 25 are as follows: overall height, 72 inches; width, 53 inches; depth, 30 inches; actual net cubic content, 28 cu. ft.; shelf area, 32½ sq. ft.; exterior finish, Bonderized rustproof Dulux; interior, genuine porcelain enamel; insulation, Balsam Wool 3 inches thick.

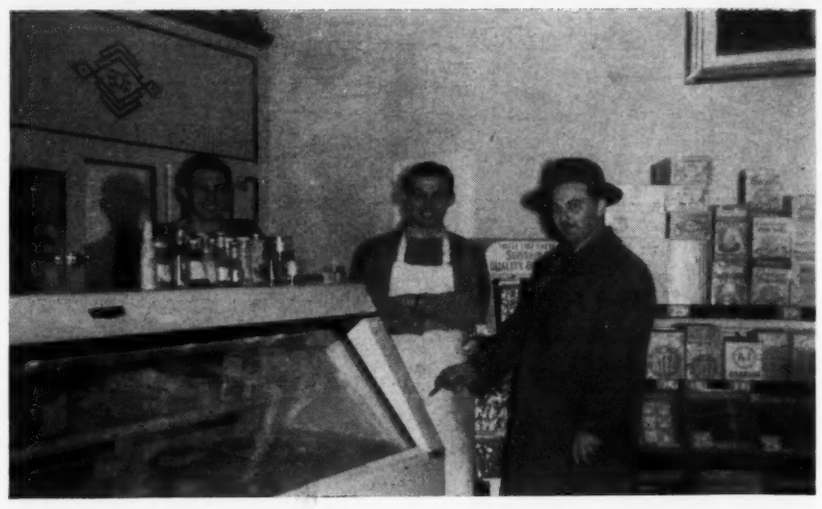
There are two small service doors with openings 20½ x 29 inches, and one large service door 20½ x 42 inches. Compressor compartment is 17 inches high.

Actual net cubic content of model 30 is 35 cu. ft., and shelf area is 26⅒ sq. ft. There are four service doors 20½ x 29 inches. This is a remote model with no compressor compartment. Otherwise, model 30 is identical with model 25 in features and construction.

Both models 25 and 30 are equipped with patented Flo-E-Fex blower coil. Adjustable shelves are furnished for both models.

List price on model 25 is $290 with blower coil and model 30 is $322 with blower coil. Porcelain exterior instead of Dulux on either model is $44 extra. Glass doors are $10 list extra, and key device door locks are available for $2.50 list per door.

Everybody's Happy Now



Frank and Bruno Siwek smile their approval of the new McCall refrigerated display case just installed in their food market by L. M. Roby of the McCarthy-Kelvinator Co. of Lansing, Mich.

* * *

Commercial Refrigeration Salesman Should Know Servicing, Lansing Dealer Says

LANSING, Mich.—Every commercial refrigeration salesman should be qualified as a service man, thinks L. M. Roby, sales manager of the McCarty-Kelvinator Co. here. Besides understanding how to supervise installations and make adjustments on refrigeration equipment, Mr. Roby feels that the commercial salesman should qualify to sell air conditioning equipment.

In addition to the Kelvinator line of commercial refrigeration and air conditioning, the McCarty firm sells McCall display cases and refrigerators, and the Delco line of automatic heating equipment. Six service men handle the work of the installation and service departments.

Prospects for commercial refrigeration equipment are obtained from direct canvass and from wholesale grocers and meat dealers, Mr. Roby states. The latter have been found to be an exceptionally good source of display prospects. Mr. Roby was associated with the Garlock-Kelvinator Co. here for six years prior to last year.

FOR EXTRA PROFITS

"The commercial salesman should get in on air conditioning, to raise his yearly volume to a respectable figure," Mr. Roby said. "To be successful the commercial salesman must sell from $30,000 to $40,000 worth of equipment per year, and a few air conditioning installations help to raise this total."

Kelvinator air conditioning installations made here during 1939 include the Ritz Cafe, 5 tons; Riches Bar, 3 tons, (self-contained); Lansing Cafe, 5 tons; Tally-Ho Club, 13 tons; and a 3-ton cold water system was installed in the Topsy-Turvey Cafe. Although city water temperatures in Lansing are around 56° F. in summer, the sale of air conditioning equipment has been about half water and half direct expansion in recent years.

Mr. Roby reported that many commercial refrigeration sales made in recent months had been for cash and that in general, the merchants in the territory were in excellent shape. "I don't know where the money is coming from," Mr. Roby declared, "but lots of merchants are paying cash for equipment."

SERVICE POLICY

Service men employed by the company are paid 97 cents per hour for actual time turned in on a service ticket. All service calls carry a minimum charge of $1.50 and if the service man works less than one hour, which is often the case, he turns in one hour's time for the call. Mr. Roby states that this method of paying service men has been found to be very satisfactory.

Installation men are paid $1.35 per hour, and 70 cents per hour is paid for helpers on this class of work.

According to Mr. Roby the "meter-plan" is still used extensively by his organization to work out down-payments and finance the sale of commercial refrigeration equipment.

Six Temperatures Maintained By 1 Compressor In Large St. Louis Restaurant's System

ST. LOUIS—As many as six different temperatures for sea foods, meats, and produce are maintained from one central compressor in the $2,000 refrigerating system installed in the Rose Bowl restaurant here by the commercial refrigeration department of the James Co., General Electric distributor.

In the basement of the building are four insulated stock cases for fish, meats, vegetables, and curing of prepared meats by aging. Two more cases are used for highly perishable sea foods and other delicacies of this type, and require a different temperature.

All six are connected to a 3-hp. compressor using "Freon" refrigerant in six coils, one to each stock room. The two perishable cases are kept at 32° F. at all times, with the other four holding temperatures ranging between 40 and 45° F., depending upon the type of product being stored.

TAMPER-PROOF CONTROLS

Operation of the system is made possible by the use of six expansion valves, thermostatically controlled, which are set and maintained each month by the James Co.'s men. Each valve is sealed when set, and is not touched except by a representative of the distributor's service department.

Maintenance of this wide range of temperature permits the restaurant to offer the same selection of foods the year around, without the necessity of giving up certain specialties during certain seasons, as had formerly been the case.

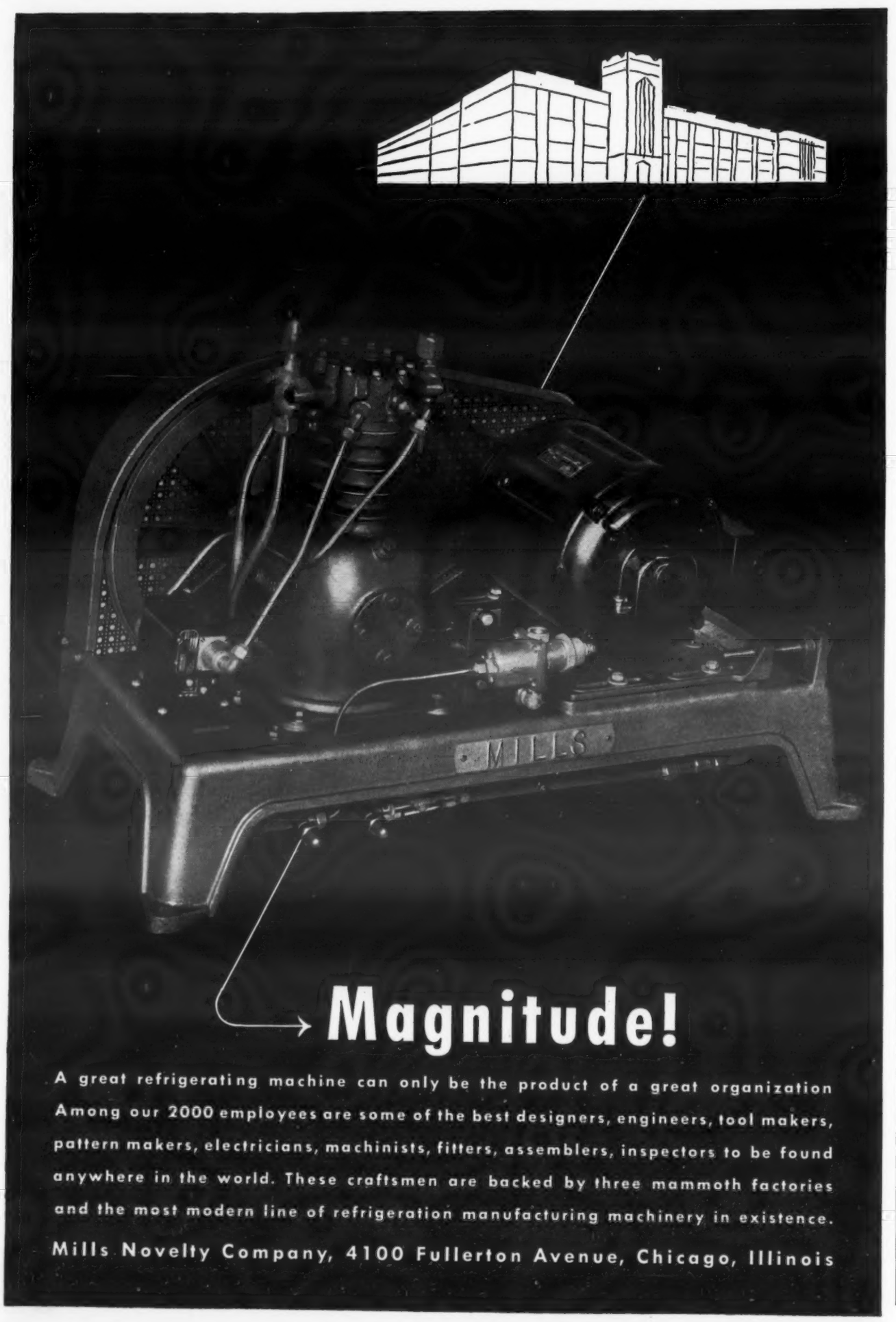
In addition to the storage cases, the basement compressor operates a 70-inch reach-in box in the restaurant kitchen for daily sea food stocks, and an 84 x 32 x 81-inch reach-in unit which holds a whole day's specialties, eliminating frequent trips to the basement.

In the restaurant's bar, which seats 330 persons and is said to be one of the longest in the country, the compressor serves a system of slide-out beverage boxes, kept at 34° F., and circulating water chilled by the compressor. Kitchen reach-in boxes are kept at 40° F., rounding out an arrangement of varying temperatures to answer all operating problems of the restaurant.

System was designed especially for the restaurant by the James Co.'s commercial department. A similar system, containing $3,000 worth of equipment, will be installed in May for another restaurant to be built in midtown St. Louis, it is reported.

New Sherer Dealers

MARSHALL, Mich.—Three new additions have been made recently to the dealer organization of Sherer-Gillett Co., manufacturer of commercial refrigeration equipment. They are: R. A. Weidlein, Memphis, Tenn.; A. W. Zittergreen, Schenectady, N. Y.; H. G. Brown, Columbia, S. C.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Magnitude!
A great refrigerating machine can only be the product of a great organization
Among our 2000 employees are some of the best designers, engineers, tool makers, pattern makers, electricians, machinists, fitters, assemblers, inspectors to be found anywhere in the world. These craftsmen are backed by three mammoth factories and the most modern line of refrigeration manufacturing machinery in existence.
Mills Novelty Company, 4100 Fullerton Avenue, Chicago, Illinois

Job Insurance Fund In Wisconsin Now Totals 50 Millions

MADISON, Wis. — More than a third of the Wisconsin employers under the unemployment compensation act are already enjoying reduced rates of contribution as a result of their favorable employment experience rating, according to the state unemployment compensation division. A late division report shows total reserves in the accounts of more than 7,000 employers, including electrical appliance firms, to total approximately $50,000,000.

Unemployed in Wisconsin have received almost $16,000,000 in benefits under the unemployment compensation act since payments began in 1936.

Principally because the Wisconsin fund began receiving contributions one and a half years ahead of the systems in other states, more than 2,800 employers have had their rates of payment reduced 2.7% to 1% or less, it was shown.

Work-Learn Scholarships Offered by Westinghouse

PITTSBURGH—Ten high school graduates will be paid $50 a month to go to college for the next five years in a "work-learn" technical study program made possible by a $200,000 appropriation by Westinghouse Electric & Mfg. Co. to Carnegie Institute of Technology.

The 10 boys, selected on the basis of competitive examinations, character, and personality, will receive George Westinghouse Scholarships, each of which has a value of $3,000. Beginning next summer, the students will obtain practical experience in Westinghouse plants during five summer vacations and two college semesters, besides completing eight semesters of college class work.

The cooperating engineering educational program was instituted in 1938, and when in complete operation will include 50 functioning scholarships, with 10 scholarships becoming vacant every summer.

D. F. Miner, George Westinghouse professor of engineering at Carnegie Institute of Technology, will supervise the scholarship holders as coordinators of the program.

Use of Quick-Frozen Fruits Aids Bakery's Pie Sales

LINCOLN, Neb.—Wendelin Baking Co. has increased the sale of its pies approximately 35% by featuring the fact that it uses quick-frozen fruits in pie fillings.

In addition to displaying the pies in its retail store, the company's salesmen distributed pamphlets to housewives, calling their attention to the fact that frozen fruits were used, to give pies a fresher, riper fruit flavor.

New Foundation To Study Bonus Payment Plans

CHICAGO—Bonus payment plans for supervisors and executives, modern methods of market analysis, the effect of public opinion on business, and the value of trade associations to business are among the subjects scheduled for early study by the George S. May Business Foundation, a non-profit organization founded to do research work in the interests of private business.

Work of the foundation will be supported entirely by contributions from members of its board of trustees, and its findings will be made available to business and educational groups without charge, it was announced.

Schultz Named Sec.-Treas. of Leeds & Northrup

PHILADELPHIA—D. H. Schultz has been elected secretary and treasurer of Leeds & Northrup Co., instrument and control manufacturer, to succeed the late C. A. White.

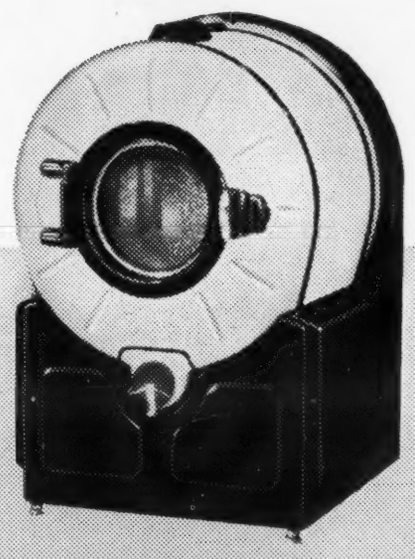
Mr. Schultz has been assistant treasurer of the company since 1928.

NOW!

Bendix Crashes the Mass Market

$99.50*

UTILITY MODEL



UTILITY MODEL—Looks like the Standard . . . washes, rinses and damp-dries

WASHES . . . RINSES . . . DAMP-DRIES

IT'S HERE! The amazing "scoop" product promised to Bendix Distributors and Dealers sixty days ago. Unbelievable, but true; a Bendix Home Laundry that washes, rinses and damp-dries in the same efficient way as the original "successor to the washing machine"... but at the market-crashing price of $99.50*.

The Standard Bendix Fully Automatic

The De Luxe Bendix Fully Automatic

Utility Model Will Dominate the Low Price Market

Prediction: *The Utility Bendix will be as dominant a factor in the price brackets below $100 as the De Luxe and Standard models have been in the over $100 class.* (Bendix sold nearly 50% of all washers over $100 in 1938 and over 50% in 1939.)

Performs the Same Operations as the De Luxe

The only important difference between the new low priced Utility model and the original De Luxe Bendix is that with the Utility model the housewife remains in attendance.

Functionally, it is the same machine, performing in identically the same manner and possessing the same capacity as its predecessors so far as washing, rinsing and whirling-dry operations are concerned. Workmanship and materials are of the same high quality . . . demonstration is as dramatic and appealing to prospects.

Amazing Advertising Values

Imagine the increase in floor traffic, inquiries and sales that will follow the advertising, displaying and demonstrating of a "washer" about which it can truthfully be said to the prospect:

"The Utility Bendix is safer—more sanitary—more convenient—less wearing on clothes — more economical to operate — easier and less tiresome to use than any conventional type washer *irrespective* of price . . . and your hands need never touch water from the time you put clothes in until you take them out."

Leadership in All Washer Markets

Dealers who handle the Bendix line from now on will enjoy leadership in the long-profit end of the market PLUS volume sales in the price groups below $100. Think what this can mean to *you* in turnover, in net profits, in lower inventories!

Heavy National Advertising This Spring

Opening with a sensational full page announcement in Life Magazine, April 8th, the public will be hammered with a constant barrage of Bendix advertising in McCall's, Woman's Home Companion, Good Housekeeping, American Home and Parents' Magazine — total circulation 18,751,003, supplemented by 18,000,000 newspaper circulation in major markets listing dealers.

Dealers Will Be Added in Some Territories

The Bendix franchise will not be peddled to everyone. Those aggressive dealers who have helped pioneer with us will not be "sold down the river," BUT . . . we *are* going to broaden our distribution. *You* know what the dealer response to this announcement will be. Don't wait. Write or wire, now . . . today.

• • •

**Model U. Slightly higher in Southwest and west of the Rockies. Small installation charge.*

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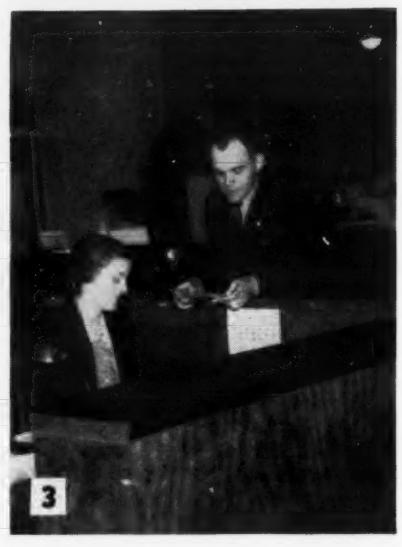
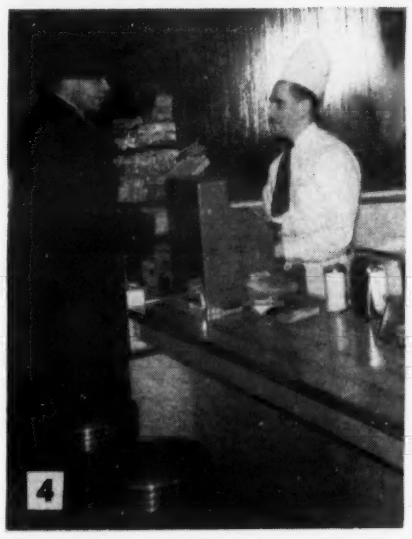
BENDIX HOME APPLIANCES, INC. • SOUTH BEND, IND.

A Day In the Life of a Top-Flight Commercial Salesman





(1) Stanley Hill, crack commercial salesman for Refrigeration Sales Co., Detroit Frigidaire distributor, starts the day right by catching up on the latest industry happenings. (2) With John Miller (left), president, and Walter De Mattia, vice president and chief engineer, he examines one of Frigidaire's new commercial compressors. (3) He dictates a job proposal to Mary Lou Collins, secretary. (4) Everybody's a prospect—including the restaurant where he has lunch. (5) At home with his wife, Dorothy, and his daughters, Marilyn, 7, and Joanne (Towser), 5. It's a "refrigeration family"; Mrs. Hill does secretarial work for Kelvinator.

'Go Back After the Others Quit' Is Recipe For Selling Commercial Given by Stanley Hill, Detroit Ace

'Average Guy Gives Up Too Quickly,' He Declares; Finds Selling a 24-Hour Job

By Henry Knowlton

DETROIT — "The average guy gives up too quickly" to be a success as a commercial refrigeration salesman, says Stanley Hill, ace salesman for Refrigeration Sales Corp., Frigidaire commercial distributor here. This quality of stick-to-it-ivness, plus long hours of hard work, plus a willingness to give an abundance of personal service to the customer, plus an elaborate "bird-dog" system, has been the cornerstone of Mr. Hill's success.

After 11 years of selling commercial refrigeration Mr. Hill knows whereof he speaks. His experience in the business predates the organization of Refrigeration Sales Corp. which was formed by John Miller and Walter De Mattia in 1935. Prior to that time Mr. Miller and Mr. DeMattia were engineers for the Detroit branch of Frigidaire, and Mr. Hill sold commercial equipment for the same organization.

"Commercial refrigeration salesmen do not make enough calls on a prospect," says Mr. Hill. "I find that the average salesman gives up after two or three calls and after four calls practically all of the salesmen interested in the deal are eliminated. The customer finally buys, and when he does, I am on hand to get the business.

THE 'FIVE-YEAR' RULE

"On the average, the customers which I have sold during the past 11 years buy additional equipment or replace part of their refrigeration **about once in five years.**

"All of my sales in recent years have been for additional equipment, replacement equipment, or new equipment going into new places of business. I have not sold equipment to replace ice since I can remember," Mr. Hill reports.

Mr. Hill does not believe that the average salesman is willing to put in the long hours of hard work which are necessary to make a success of the business. His schedule of appointments runs from eight in the morning until well after midnight. On evenings when he does not have regular calls to make on prospects he goes "out and around"—getting acquainted with the owners of restaurants, bars, and other types of business.

"Some evenings," Mr. Hill says—"I never get a prospect. But just the other night I picked up four good deals in the course of one evening and closed all of them within a week. I get to know people, especially my own customers, and they are always giving me tips on who is going to buy."

Mr. Hill also gets tips from bread men, meat men, independent service men, and others who are in touch with merchants every day. He pays these informants a "booster fee" of $10 on a sale running up to $500, $15 for a $750 sale, and $25 for sales over $1,000. Mr. Hill states that one restaurant job installed for an owner in the southwest section of the city has resulted in 32 sales in that vicinity, all coming from "tips."

In addition to "tips," Mr. Hill uses "canvassers" who work out of his office and look for commercial refrigeration business. These men are paid half of his commission on every installation—the commission totaling between 12 and 14%.

HIS SALES TECHNIQUE

In actually "selling" the prospect that is interested in commercial refrigeration equipment Mr. Hill stresses the fact that his equipment is built by a substantial manufacturer, that the firm handles its own service and installation, and that the refrigerating mechanism can be guaranteed for 10 years under a standard warranty that is renewable year by year.

For the normal ¾-hp. installation, after the first year of free service is over, the customer pays $17 for a "service policy," under which he is charged for 50% of any necessary labor necessary to adjust or repair the equipment—and nothing for parts. Mr. Hill reports that over half of his customers avail themselves of this "service policy" and that they are well satisfied with its operation. It also keeps the organization in touch with the customers over a period of years, which is a valuable opportunity for selling additional equipment.

Refrigeration Sales Corp. employs five installation men and two service men. Night service is made available to customers from the local Frigidaire branch, which maintains service for national user accounts.

SALES FROM 'SERVICE'

Discussing his "personal service" to customers Mr. Hill states that 50% of his work is done with no thought of immediate remuneration. Sometimes this "service" takes the form of a long and involved road to a sale. Mr. Hill cited a recent example where one of his customers, who purchased $2,400 worth of equipment in recent years, was in the market for a new beer cooler.

"I went out to see him," Mr. Hill said, "and found that before he could get room to install the new equipment he had to have an addition put on his place. I arranged to have a contractor bid on the job, and when a satisfactory price had been decided upon, took the necessary papers to the bank and arranged for a loan to cover the improvement. The application was accepted, the contractor went ahead with the alteration to the building, and I got my order."

Citing another experience, Mr. Hill related how a prospect had called him at 11 p.m. one evening and said, "If you want to talk about my refrigeration—come over now." This session ended at 4:40 a.m., with the signing of a large order for commercial equipment.

Mr. Hill also pays many little bills for the customer out of his own pocket, rather than have him dissatisfied.

"Not long ago we were installing a new reach-in refrigerator for a good customer," Mr. Hill said, "and when we moved the old box we found the floor was rotten. It cost $10 to get it fixed—but I paid it out rather than have the customer kick about the extra expense."

When closing a sale Mr. Hill has one favorite method of overcoming a difference in price. If the sale cannot be obtained in any other way he offers to "throw in" a merchandise prize contained in a booklet called "A Chest of Gifts for Friends of Frigidaire." Ordinarily, this book is used to get prospects, by giving prizes to people who turn in tips—but in certain cases Mr. Hill uses the old "something for nothing" angle, and offers a prize to the prospect to close a sale.

BEATING 'PRICE' BUYERS

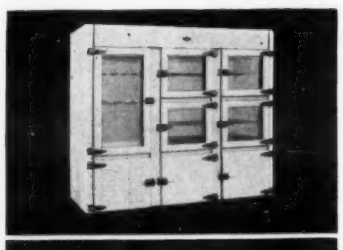
"I have found," Mr. Hill says, "that where I have a price difference of $75 or $100, I may be able to overcome it by throwing in a bicycle, a table, a new traveling bag—or something else the prospect wants. One of the most important things about this technique is that it takes the prospect's mind off the price difference at the time of sale and gets him interested in the merchandise.

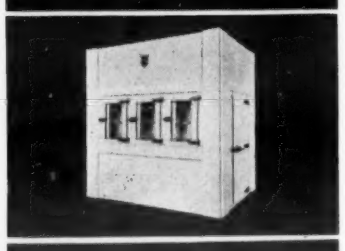
"The other night I was selling equipment to a woman, but when it came to getting the order, all she could see was a price difference of $45. I showed her the merchandise book and offered her a range of prizes with the order. She picked out a table that she had 'always wanted'—and immediately forgot all about the price difference. Now she

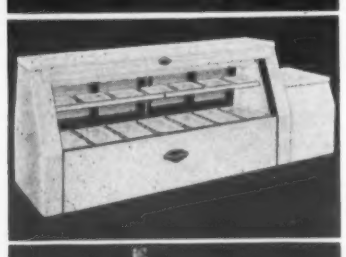
(Concluded on Page 15, Column 1)

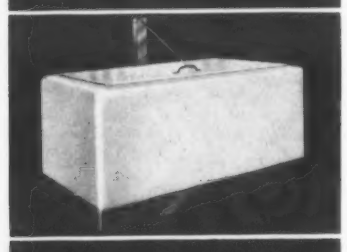
Win Sales With Warren

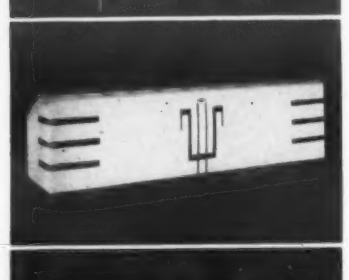
The Complete Quality Line Of Commercial Refrigerators

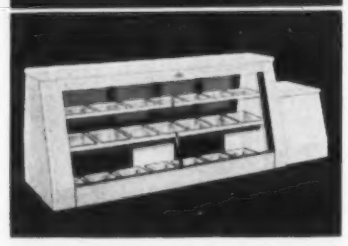












Nationally Known and Recognized!

A Repeat-Business Builder!

For more than fifty years Warren has manufactured commercial refrigerators. Not ordinary, run-of-the-mill refrigerators, but only the highest quality, measured value, commercial refrigerators! Only that kind could possibly attain the enviable, widespread reputation Warren products have today!

That's why, when you walk up to a prospect and tell him you sell Warren Commercial Refrigerators, he knows right off that you sell quality merchandise! And he's ready and willing to hear your story.

Only Warren Boasts These Features That Boost Sales For You!

You have more than reputation and quality to talk about when you sell Warren Commercial Refrigerators! You have exclusive, outstanding Warren features to talk about. Features that save your customers money. Features that clinch sales for you!

Only Warren Display and Storage Cases have the famous *Dehydrator*, a patented feature which absolutely prevents display glass fogging! And only Warren has the patented *Defrosting System* which mechanically defrosts refrigerating coils in five to fifteen minutes! Only Warren has the *Cir-Q-Lator* which reduces compressor running time and adds life to the compressor and motor. No other lines have these exclusive Warren features, developed and perfected by skilled Warren engineers in the big Warren plant. Only you can sell these money-saving features.

And when you sell Warren products, they stay sold! In fact, you'll find as most Warren sales representatives do, that one sale often leads to another. Warren Commercial Refrigerator users know they get real value for their money. And when they need additional equipment, you'll get the order!

Write Now For Details About Selling For Warren

If you are a wide-awake, progressive sales representative and want to increase your profits this year, write now for complete details about selling Warren Commercial Refrigerators. Do it now! Climb aboard the Warren band wagon -- it's going places in '40!

WARREN

THE WARREN COMPANY - ATLANTA, GA.

Perseverance First Rule of Commercial Selling, Hill Says

(Concluded from Page 14, Column 5)

has the table and the new equipment and everyone is happy," Mr. Hill said.

In his 11 years of experience Mr. Hill has sold almost every conceivable kind of commercial system. Constant concentration on one of the large Detroit steel companies has resulted in the sale of over $30,000 worth of water cooling equipment. Other installations have included the Hotel Statler Terrace Room, Cafe Cadillac in the Book Cadillac Hotel, lake steamers Eastern States and Western States operating on the Buffalo run, and a number of bakery dough rooms and ingredient rooms.

Mr. Hill has installed cooling equipment for the American Brass Co. which is used to take the moisture out of natural gas before it is burned in annealing ovens. The gas pipes are run through a cooler and the gas temperature is reduced to the point where excess water is condensed out—which tends to increase the heat output in the oven.

Another interesting installation is one used to "freeze" human body organs at low temperatures, before chemical tests are made to determine different types of poisoning.

Mr. Hill speaks English, Italian, and Spanish fluently. He has tried to learn Polish—as there is a large Polish population in Detroit, but has finally given it up as a "bad job." In selling commercial equipment he always trys to take his prospect to an owner of the same nationality. By this method he has made sales to Finns, Poles, Albanians, Mexicans, Armenians, Chinese, Italians, Frenchmen, Germans, and Americans.

While Mr. Hill has "high years" and "low years"—his average yearly sales volume does not vary as much as normal business. As an example his sales by months in 1936—which he considers an "average year" were as follows:

January	$ 2,329
February	11,432
March	8,712
April	5,924
May	9,013
June	9,542
July	11,206
August	5,115
September	5,570
October	1,868
November	2,182
December	3,415
Total	**$76,308**

Commenting on the changing character of the commercial refrigeration business, Mr. Hill states that the policy of many manufacturers, to "play the field"—sell to fixture houses, independent service men, and butcher supply houses, is making it harder for him to get business.

"We are still selling Sherer-Gillett and Seeger cases, with Frigidaire equipment, to the customer—at retail," Mr. Hill said, "but it is becoming more and more difficult to get a good price for an installation—as there are now over 100 firms selling commercial refrigeration of one kind or another in Detroit."

Old Flour Mill Becomes A Refrigeration Plant

MANCHESTER, N. H. — An old flour mill at 39 Beech St. is being converted into a refrigeration and bottling plant by Gustave Schneider, local wholesale beer distributor. An 84 by 32 foot addition has been made to the original mill building. Ground floor will be used as the bottling department, with the rest of the plant serving as storage space.

Midwest Mfg. Co. Establishes Warehouse In Boston

BOSTON—Local warehouse facilities for its commercial refrigerators have been arranged for by Midwest Mfg. Co. at Wiggins Terminals here. These facilities were established in an effort to provide improved service for the company's New England distributors. Otto C. Endress, formerly New England commercial manager for Kelvinator, is now Midwest's factory representative in this area.

Refrigeration Recommended To New Hampshire Apple Growers As Means of Protecting Crops, Making More Money

CONCORD, N. H. — Refrigerated storage of apples is recommended to members of the Merrimack Farmer's Exchange, Ine. in the cooperative's Monthly Messenger magazine. In a recent issue, New Hampshire farmers were told that "it is a deplorable fact that a large percentage of graded apples sold in this state during the late winter and spring months are imported from western and southern states, due to lack of refrigerated storage facilities for native apples.

"More and more progressive growers are installing, or planning to install, refrigerating equipment to protect their crop and insure a better income than is possible when apples must be sold at harvest time in a declining market."

According to the cooperative, the holding period of apples can be considerably lengthened with refrigerated storage facilities. The principal early varieties, such as Wealthy, Gravenstein, and McIntosh, can be stored from three to five months and in some cases longer; while the later varieties such as Delicious, Northern Spy, and Baldwin, can be held in refrigerated storage from five to seven months. Apples grown in New Hampshire can be stored for longer periods than those grown in southern states, the article states.

Temperature has been found to be the most important factor in determining the best storage conditions for apples. A temperature of 32° F. has previously been considered proper, but it is generally recognized that certain varieties will not tolerate such low temperatures and "soggy breakdown" will occur.

The magazine states that storage at 35° F. is now considered sufficiently low for all varieties when fruit is not stored unduly long and when it is protected by oil paper. In McIntosh apples, the disease called "brown core" will occur at 32° F. and lower.

The article describes a recent installation for Parmenter Bros. at Londonderry, N. H., where refrigeration equipment has been installed to protect apples in storage. Exposed walls and ceiling of the storage space are protected with 8 inches of rock wool.

Cooling is produced by a Servel product cooler having a pressure type centrifugal blower, which delivers air through a distributing nozzle after it has been cooled by passing over a finned copper coil, in which methyl chloride is expanded.

Refrigeration is produced by a 3-hp. Servel four-cylinder compressor, connected to the product cooler. This unit is located on the floor above the cooler, and an oil separator is employed to insure adequate oil being returned to the crankcase.

75-Locker Storage Plant Opened In Cheyenne, Wyo.

CHEYENNE, Wyo.—W. H. Kirchner has opened a modern 75-locker refrigerated locker plant at 314 East 8th St. under the name of Dutch's Refrigerated Locker Service. A kitchen is included in the plant for free use of customers if they do their own work. Otherwise a butcher's services are available at a nominal fee. Rental charge for the lockers will be $10 per year.

Alabama Docks Plant Will Rent Individual Lockers

MOBILE, Ala. — The Alabama State Docks cold storage plant has announced that arrangements have been made to rent individual locker rooms. Individual lockers 4½ feet high, 30 inches deep, and 24 inches wide will be rented individual farmers at $1 per month or $10 per year.

EVERY PAR UNIT TESTED UNDER ACTUAL OPERATING CONDITIONS!

IT'S NOT enough to know that every piece of material and every individual part is painstakingly finished to accurate tolerances—nor can we be satisfied with a casual test after final assembling. Every individual Par unit has to stand up under a thorough-going operating test. Each completed unit—compressors, condenser and receiver is subjected to high temperature, under 25" vacuum to eliminate any trace of moisture . . . then charged with refrigerant and run in for 24 hours under actual refrigeration load . . . carefully checked for noise, valve efficiency and leaks—an adequate operating test for every Par before it starts doing work for you.

★ ★ A PAR UNIT FOR EVERY JOB ★ ★

SEE YOUR JOBBER

ALABAMA
BIRMINGHAM—REFRIGERATION SUPPLIES DISTRIBUTOR
MONTGOMERY—TEAGUE HARDWARE CO.

ARIZONA
PHOENIX—REFRIGERATION SUPPLIES DISTRIBUTORS

CALIFORNIA
LONG BEACH—REFRIGERATION SUPPLIES DISTRIBUTORS
LOS ANGELES—FRANK GILLETT COMPANY
LOS ANGELES—REFRIGERATION SUPPLIES DISTRIBUTORS
OAKLAND—CALIFORNIA REFRIGERATOR CO.
SAN FRANCISCO—CALIFORNIA REFRIGERATOR COMPANY

COLORADO
DENVER—MC COMBS REFRIGERATION SUPPLY CO.

DISTRICT OF COLUMBIA
WASHINGTON—MELCHIOR, ARMSTRONG, DESSAU COMPANY

FLORIDA
JACKSONVILLE—BOWEN REFRIGERATION SUPPLIES, INC.
TAMPA—BOWEN REFRIGERATION SUPPLIES, INC.
WEST PALM BEACH—MOTOR PARTS & EQUIPMENT COMPANY, INC.

GEORGIA
ATLANTA—BOWEN REFRIGERATION SUPPLIES, INC.
MACON—LOWE ELECTRIC CO.

ILLINOIS
CHICAGO—H. W. BLYTHE COMPANY
PEORIA—R. E. THOMPSON COMPANY

INDIANA
INDIANAPOLIS—F. H. LANGSENKAMP CO.
SOUTH BEND—F. H. LANGSENKAMP CO.

IOWA
CEDAR RAPIDS—DENNIS REFRIGERATION SUPPLY
DAVENPORT—REPUBLIC ELECTRIC COMPANY
DES MOINES—DENNIS REFRIGERATION SUPPLY
SIOUX CITY—DENNIS REFRIGERATION SUPPLY
WATERLOO—WINTERBOTTOM SUPPLY CO.

KENTUCKY
LEXINGTON—UNITED SERVICE CO., INC.
LOUISVILLE—S. W. H. SUPPLY CO., INC.

MARYLAND
BALTIMORE—MELCHIOR, ARMSTRONG, DESSAU COMPANY

MASSACHUSETTS
BOSTON—MELCHIOR, ARMSTRONG, DESSAU CO.
SPRINGFIELD—MELCHIOR, ARMSTRONG, DESSAU COMPANY

MICHIGAN
FLINT—LIFSEY DISTRIBUTING CO.
GRAND RAPIDS—B. F. HARRIS & SON

MINNESOTA
MINNEAPOLIS—REFRIGERATION & INDUSTRIAL SUPPLY CO., INC.

MISSOURI
KANSAS CITY—FORSLUND PUMP & MACHINERY COMPANY
ST. LOUIS—BRASS & COPPER SALES CO.

NEBRASKA
LINCOLN—WICKHAM SUPPLY COMPANY
OMAHA—INTERSTATE MACHINERY & SUPPLY CO.

NEW JERSEY
NEWARK—MELCHIOR, ARMSTRONG, DESSAU CO.
RIDGEFIELD—MELCHIOR, ARMSTRONG, DESSAU COMPANY

NEW YORK
ALBANY—MELCHIOR, ARMSTRONG, DESSAU COMPANY
BROOKLYN—MELCHIOR, ARMSTRONG, DESSAU COMPANY
BRONX—MELCHIOR, ARMSTRONG, DESSAU CO.
BUFFALO—MELCHIOR, ARMSTONG, DESSAU CO.
ROCHESTER—MELCHIOR, ARMSTRONG, DESSAU COMPANY
NEW YORK CITY—MELCHIOR, ARMSTRONG, DESSAU COMPANY

NORTH CAROLINA
CHARLOTTE—HENRY V. DICK & CO.
GREENSBORO—HASCO, INC.
RALEIGH—HENRY V. DICK & CO.

OHIO
AKRON—PERCY G. HANSEN
CINCINNATI—THE MERKEL BROTHERS CO.
CLEVELAND—DEBES & COMPANY
COLUMBUS—REFRIGERATION ELECTRIC SUPPLY CO.
DAYTON—THE W. H. KIEFABER COMPANY
TOLEDO—HEAT & POWER ENGINEERING CO.

OKLAHOMA
OKLAHOMA CITY—MIDEKE SUPPLY CO.
TULSA—MACHINE TOOL & SUPPLY CO.

OREGON
PORTLAND—REFRIGERATIVE SUPPLY, INC.

PENNSYLVANIA
HARRISBURG—MELCHIOR, ARMSTRONG, DESSAU COMPANY
PHILADELPHIA—MELCHIOR, ARMSTRONG, DESSAU COMPANY
PITTSBURGH—MELCHIOR, ARMSTRONG, DESSAU COMPANY

SOUTH CAROLINA
COLUMBIA—HENRY V. DICK & CO.

TENNESSEE
CHATTANOOGA—PEGLAR MACHINERY CO.
KNOXVILLE—HENRY V. DICK & CO.
MEMPHIS—UNITED REFRIGERATOR SUPPLY CO.
NASHVILLE—ELECTRA DISTRIBUTING CO.

TEXAS
CORPUS CHRISTI—HOLSWORTH EQUIPMENT CO.
DALLAS—THE ELECTROMOTIVE CORPORATION
FORT WORTH—MC KINLEY REFRIGERATION SUPPLY COMPANY, INC.
HOUSTON—D. C. LINGO COMPANY
WICHITA FALLS—UNITED ELECTRIC SERVICE CO.

VIRGINIA
NORFOLK—NOLAND COMPANY, INC.
RICHMOND—A. R. TILLER, INC.

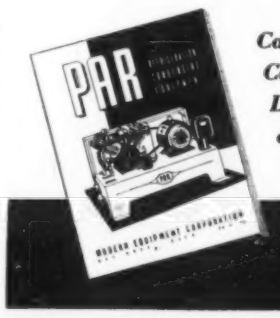
WASHINGTON
SEATTLE—REFRIGERATIVE SUPPLY, INC.
SPOKANE—REFRIGERATION PARTS SUPPLY CO.

WEST VIRGINIA
CHARLESTON—AIR CONDITIONING & REFRIGERATION SUPPLIES, INC.

WISCONSIN
MILWAUKEE—REFRIGERATION SPECIALTY CO.

CANADA
MONTREAL, QUEBEC—RAILWAY & ENGINEERING SPECIALTIES, LTD.
TORONTO, ONTARIO—RAILWAY & ENGINEERING SPECIALTIES, LTD.
WINNIPEG, MANITOBA—RAILWAY & ENGINEERING SPECIALTIES, LTD.
VANCOUVER, BRITISH COLUMBIA—FLECK BROTHERS, LTD.

EXPORT DEPARTMENT
MELCHIOR, ARMSTRONG, DESSAU COMPANY, RIDGEFIELD, N. J.



Catalog of Complete Line Sent on Request

MODERN EQUIPMENT CORPORATION - DEFIANCE, OHIO

'IF I WERE A JOBBER . . .'

Editor's Note: "Zeke" Carrithers, who heads up the NEWS' advertising department, has been active in merchandising work for more than 20 years. He has had a hand in all kinds of merchandising activities—from doing retail selling to setting up displays.

He thinks that the refrigeration supply jobber hasn't given as much attention as he might to displaying and "selling" his merchandise. Some of his suggestions on display have been put to good use by Joe Oberc, Detroit jobber, in a new branch store. Here he sets forth a method whereby a display can be arranged simply and economically.

By Zeke Carrithers

Were I a jobber, I would give serious study to the display of what I had to sell.

If possible, I would try to get up early enough some morning to open up the place and stand where the customer stands and size up the entire establishment. I would study whether the merchandise is arranged and displayed as effectively as it might be from a selling standpoint.

I would try to see the place through the eyes of the customer.

Is the merchandise hidden in drawers, under the counter and otherwise concealed, or is it out where it can be seen?

I would think of the old adage "Merchandise well displayed is half sold."

I would consider the arrangement of my merchandise and displays as compared with the drug stores, super markets, department stores. My basic thought would be not that I am trying to do an advertising job for any manufacturer, but I am trying to sell as much profitable merchandise as I can.

That brings up a point. Other things being equal, it is regarded good practice to display merchandise that carries a profit.

Starting at the front of the store, I would consider a window display so that passers-by would get a favorable impression of what I have to sell. Most stores have window displays.

If wall space is available or can be made available in the front part of the store, I would build a shelf the height of the counter against the back wall and divide it into miniature booths about two or three feet wide, and in each booth I would arrange a unit display featuring a single item.

Of course, it might be necessary to put in several different numbers of the same item or different sizes to make an effective display, but I would carry through on the unit idea.

In front of the wall with its displays would be the usual counter or display case—back of which the salesman would work. All other wall space I would treat the same.

If I were a jobber, I would see that these displays are changed once a week. I would never set any item either on the floor of the store, the floor of the window, or the floor of the miniature display booths. I would always set it up on something. I would "display" it.

It would not be necessary to go into the elaborate display fixtures used by department stores, specialty shoe stores, millinery shops, etc., but just such plain things as ordinary boxes can be used to form platforms or pyramids upon which to set the merchandise on display.

These boxes are easily obtainable. Shipping cases, etc., are already around the place. To cover them and drape the material so as to conceal the boxes and display the merchandise, crepe paper always seemed to me to be rather cheap looking. Velvet, such as generally used in the display of silverware and jewelry and watches, would probably be out of keeping with valves, fittings, tools, etc. But sateen, being fairly inexpensive and offering a variety of colors, might be used to advantage in covering the box or boxes to arrange the display in an attractive manner.

In nearly every town of any consequence there are free-lance display men who operate on somewhat the same basis as the independent refrigeration service man. They are in business for themselves and their business consists of arranging interior and window displays for different customers on a regular once-a-week or twice-a-month basis.

First I would find one of these fellows and I would go look at some of his displays in actual use, and if favorably impressed, would make an arrangement with him to come over to my place and help me decide upon what might be needed in the way of carpenter work and painting, etc., to get my window display and miniature booths along the walls.

Then if I could arrive at satisfactory terms, I would arrange for him to come one evening each week and help change these displays.

Taking another page from the chain stores, I would bear in mind that the best advertised lines have more widespread acceptance and usually have the most effective display value.

Anyhow, this subject is worth thought and study, and if I were a jobber, I would give it a lot.

Joe Oberc Opens a Branch Store

Interior of the new Oberc store (above) is arranged to provide maximum display of stock. Lou Wallace is manager. Below: The store exterior.

• • •

Jobber's First Branch Store Arranged For Maximum Display of Parts Stock

DETROIT—J. M. Oberc, Inc., jobber of refrigeration and air conditioning supplies, has opened a new store at 15021 E. Warren Ave. here to serve customers on the east side of Detroit, and in smaller towns to the east and northeast of Detroit. It is the company's first branch store.

"The east side of Detroit has built up rather rapidly in the last 15 years, and much of our volume comes from this part of the metropolitan area," stated Joe Oberc, head of the company, in announcing the opening of the new branch store. "The location of this store also makes it very accessible to customers from Port Huron, Mt. Clemens, Rochester, and other surrounding towns.

"But one of the main reasons for establishing a branch store was to provide a depot where customers can pick up supplies for emergency service work," asserts Mr. Oberc. "Service men working on a job who have a need for only a belt or a couple of fittings sometimes consume more time in running half way across the town for the part, than they put in on the job itself. Picking up parts is a terrific time killer in a big town—unless a jobber's store is very handy."

COMPLETE LINE STOCKED

All the lines carried in the Oberc main store at 904 W. Baltimore will be duplicated in the branch store, only the stock will be carried on a smaller scale, as the store is smaller in size, Mr. Oberc explained. A refrigerant charging system built in the same general design as the setup which Mr. Oberc himself designed for the main store, has been installed at the east side branch.

Managing the branch will be Lou Wallace, who has been with Oberc for 1½ years, and who was formerly an instructor in the Detroit School of Refrigeration & Air Conditioning. Mr. Wallace is qualified to assist the service engineers and installation contractors in solving installation problems.

A feature of the new store is the manner in which the bins holding the stock have been arranged to afford a maximum of display (see picture of the store interior).

"AIR CONDITIONING & REFRIGERATION NEWS gets the credit for the thought that was put into our store arrangement," says Mr. Oberc, "because it was in my talks with 'Zeke' Carrithers about how a jobber's place of business might be arranged to afford better display that I got some of the ideas I have used in the new branch." (For more of the ideas suggested by "Zeke" Carrithers, NEWS advertising manager, see article on this page.)

To get the most out of the available space, Mr. Oberc took out some sections of the tier of Lyons metal shelving immediately behind the counter and inserted two "Revolvo" trays, in which are kept the wide variety of refrigeration fittings which refrigeration jobbers must keep at hand.

These "Revolvo" trays provide spaces or "bins" for 288 different kinds of fittings. Each "bin" space is marked with the part number, list price, and net prices in various quantity brackets, to allow for quick dispensation to the customer.

'FAST' LINES HANDY

"On the shelves directly behind the counter—the ones that the customers can see—we put the fast-moving items such as line valves, expansion valves, and controls—and particularly such items as are neatly packaged, and which add to the display," explained Mr. Oberc.

On the top of this shelving facing the entrance are various models of replacement evaporators.

Back of the special counter shelves are several more tiers of metal stock shelving, each with about 800 sq. ft. of shelf area.

Along one wall and at right angles to the main counter at the floor of the store is a glass display case, in which is kept a display of tools and gauges—things which Mr. Oberc calls "look around" items, for the customer to inspect while he's in the store.

On the other side wall, along the aisle which leads to the stock shelving, are displayed the line of "V" belts which Mr. Oberc handles. The belts are displayed on racks of Mr. Oberc's own design, consisting of painted two-by-fours in which holes are drilled at an angle, and dowel pegs driven into these holes. Printed cards giving the belt model numbers are placed beneath each peg.

THE "BIG GUN" DOES EVERYTHING!

RIPENS BANANAS...

SHARP FREEZES MEATS...

HANDLES EVERY COMMERCIAL REFRIGERATION PROBLEM AS ONLY PEERLESS CAN

Peerless CANNON COOLER

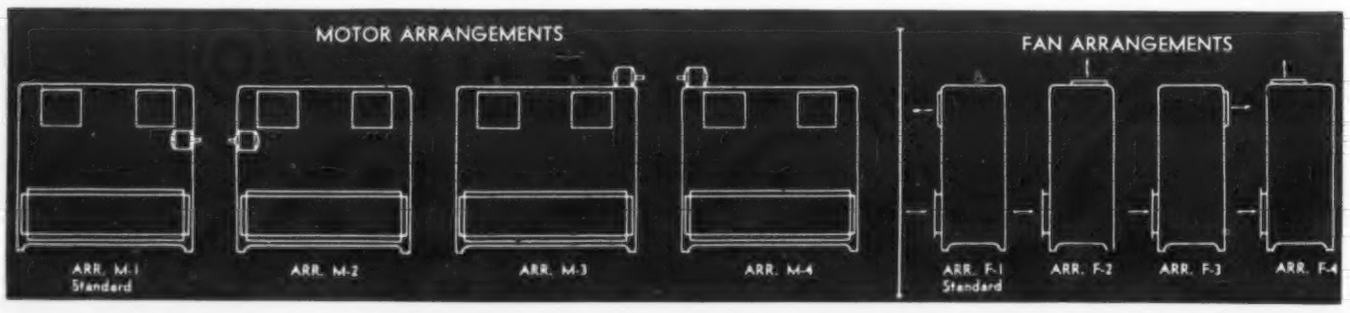
Head and shoulders above the crowd! A typical example of Peerless engineering—of advanced thinking in refrigeration. Apply the Cannon Cooler anywhere—for installations requiring temperatures below 32° or above 50°. Solid, booming cold pours from this heavy duty unit in volumes from one to ten tons. Floor or ceiling models, adapted to any type of refrigerant. *You protect your reputation, your profits and your customer when you install the Peerless Cannon Cooler!*

New design from top to bottom

To make this a completely outstanding refrigerator, Peerless incorporated every scientific development conceived and perfected in its laboratories. Lighter—but stronger. Adjustable motor sheaves permit perfect balance. Famous "rifled" coils with Thermek surface. Exterior casing can be removed without disturbing internal parts. Truly, the "Big Gun" of commercial refrigeration.

Get all the facts on the Cannon Cooler in the big 1940 Peerless Catalog—your guide to the most complete line of low-side equipment in America!

ADAPTABLE TO EVERY INSTALLING SITUATION



NEW YORK FACTORY
43-20 34th Street
Long Island City
PACIFIC COAST FACTORY
3000 South Main St.
Los Angeles, Calif.

Peerless OF AMERICA

Midwest Factory, General Offices—515 W. 35th Street, Chicago

SOUTHWEST FACTORY
2218 N. Harwood St.
Dallas, Texas
EXPORT DIVISION
P. O. Box 636
Detroit, Mich.

Free Air Trip Offered Appliance Customers By Florida Utility

ORLANDO, Fla. — "Win a Free Trip by Air" is the keynote slogan of the Orlando unit of Florida Public Service Co.'s spring refrigeration and gas appliance sales activity. Each person installing an all-gas kitchen between April 1 and May 31, composed of refrigerator, range, and water heater, will receive a free flight on an Eastern Air Lines transport plane to Jacksonville or Miami and return.

This unusual merchandise promotion will be supported by advertising which carries an aviation theme. A model plane builder's contest open to persons under 18 years of age, and with weekly prizes, is an added feature of the spring campaign of the company.

Howard Dunkly Joins Rex Cole, Inc.

NEW YORK CITY — Howard Dunkly, formerly eastern district sales representative for Stewart-Warner, has joined Rex Cole, Inc., General Electric distributor, in charge of sales for Manhattan and Bronx. Mr. Dunkly succeeds Joseph Dyas, with the Rex Cole organization for a number of years, who has resigned.

Texas Dealer Sells Carload Of Refrigerators To Rural Electric Line Users

SALINA, Tex.—Proof that patrons of new rural electrification projects are fine prospects for electric refrigerators has been established by Bray Dry Goods Co., Norge dealership here. The company has sold a carload of refrigerators to new rural line users since the first of the year, for use in farm and ranch homes in the territory.

Three Virginia Dealers Add New Lines

ALEXANDRIA, Va.—Three appliance dealers in the territory of Virginia Public Service Co. have recently added new lines to their stock. These companies and the products they have taken on are: Cline Music Co., Staunton, Kelvinator; Lewis Radio Service, Charlottesville, Philco refrigerators; Furniture, Inc., Arlington, Norge.

Scranton Utility Stages 'Electric Range Revue'

SCRANTON, Pa. — An "Electric Range Revue" was staged by Scranton Electric Co., local utility, April 1 to 10. Local electric range distributors and dealers cooperated in offering a cooking school, movies, and prizes, chief of which was an electric range.

S. Carolina Dealer Takes on G-E Line

McCOLL, S. C.—McLaurin Hardware has taken on the full line of General Electric appliances. Shelton Usher, formerly in charge of Westinghouse appliance sales for Z. V. Pate, Inc. at Gibson, N. C., is now associated with the McLaurin organization.

Mitten Takes on Norge

MARSHFIELD, Wis. — C. W. Mitten has been named exclusive dealer for Norge in this area. He has opened a salesroom at 406 S. Cedar St.

Everett's Adds Westinghouse

SUMMERTON, S. C.—Everett's, Inc., owned and managed by H. F. Everett, has been appointed Westinghouse dealer here. Mr. Everett is an old-line hardware merchant.

'Progress Show' Jumps Mobile Dealer Sales Up 50%

MOBILE, Ala.—Dealers' reported sales stepped up 50% here during a three-day "Electrical March of Progress" held at the Mobile Casino. Features of the show were an electric ironer and hand iron contest, in which the former came off far ahead, a demonstration of cooking with measured heat conducted by Miss Edith Hitchcock, home economist of Alabama Power Co., and a power generating contest.

Valuable prizes helped to draw thousands of persons to the show.

Dealers having exhibits were: Roche Home Equipment Co.; Phillips Furniture Co.; Kitrell-Milling Motor Co.; Armbrecht Tire Service; Sears, Roebuck & Co.; Quigley Specialty Co.; Alabama Power Co.; Quinlivan Specialty Co.; Refrigeration Service Co.; Lerio Patent Cup Co.; and Delchamps Grocery Co.

Men's Night Features Miss. Cooking School

JACKSON, Miss. — A "Men's Night" on which only the so-called heads of the families were permitted to attend was a feature of the Home Revue and Cooking School staged here recently under sponsorship of Mississippi Power & Light Co.

Men attending the meeting were given a chance to try out their favorite "he-man" recipes, as well as to inspect the newer electric cooking appliances which cooperating local retailers had on display.

Lammert Furniture Co. Named G-E Dealer

ST. LOUIS—Lammert Furniture Co. has been appointed a General Electric appliance dealer here. One of the country's 10 largest furniture stores, both in size and volume, the store has long been an advocate of complete planned-kitchen sales. Basement showrooms of the company can afford display of 200 refrigerators at one time.

Presentation of the complete G-E line to Lammert's 70 sales representatives was made in a three-hour showing in the showrooms of the James Co., G-E distributor. Warren Lammert III of the dealership and John Hart, sales manager for James, were joint hosts at the meeting.

D. O. Ward Moves Up In Bridger Corp. Store

BLADENBORO, N. C. — D. O. Ward, formerly in charge of the General Electric appliance department of the Bridger Corp. store here, has been promoted to the position of general floor manager.

Spring Remodeling

WAYNESBORO, Va. — Hamilton-Cook Hardware Co., General Electric appliance dealer here, is completely remodeling its store.

Carolina Power Dealers Report Feb. Sales

RALEIGH, N. C.—February sales of major appliances in the territory of Carolina Power & Light Co. are tabulated below. Great majority of these sales were made by dealers. In only two classifications—electric water heaters with 38 units, and ranges with 53 units—did the utility's sales account for any considerable percentage of the totals for the month.

Appliance	Unit Sales
Refrigerators	442
Ranges	242
Water Heaters	113
Washers	342
Vacuum Cleaners	105

New Westinghouse Dealer

OIL CITY, Pa.—Welker & Maxwell Co., established here for the past 50 years, has taken on the Westinghouse line of household appliances. Appliance department is on the store's third floor.

600 out of every 1000 NORGE BUYERS

choose DE LUXE MODELS because NORGE has the *Features* and the *Appeal* that enable you to SELL UP!

[*At the left:* Norge Model DR-6, top favorite in the deluxe group in which 60% of Norge sales are concentrated.]

● DEALERS—this is the type of Norge that Mrs. America is buying, not a promotion model but a big, deluxe model that carries a big, full-sized profit—the kind of profit you need and must have to stay in business.

And, the reason why Mrs. America is so willingly paying *more* to get a bigger, better Norge is that Norge deluxe models are packed with features that she can see and feel and handle—features that are so obviously superior that she can "sell herself" by just looking at them—features that appeal to her pride as well as to her pocketbook.

Highlight features of the DR-6 (above), for example, are: Oversize capacity—an extra "shelf-ful" of space in the food compartment; five big zones of food storage; stainless steel freezer; refrigerated freezer shelf; Handefroster; Coldpack; all-sliding shelves; glass-covered, sliding drawers; Cellaret; Butter-Dome; left-over dishes; exclusive refrigerant-cooled Rollator Cold-Maker; and beauty of design and detail with tremendous feminine appeal.

Of course, Norge makes low-priced models, too, spectacular promotion models and full-profit volume models, all useful in selling the whole market—and in helping you to "sell UP" into the big profit figures. Norge new finance plans are especially generous to your customers and to *you*.

Investigate the *complete* line of Norge appliances . . . the opportunity for profit from matched unit sales.

NORGE DIVISION BORG-WARNER CORPORATION
Detroit, Michigan
In Canada: CANADIAN RADIO CORPORATION, Fleet St., Toronto
Washers and Ironers • Gas and Electric Ranges • Commercial Refrigeration

SEND THE COUPON FOR DETAILS

NORGE DIVISION BORG-WARNER CORPORATION, 670 E. WOODBRIDGE, DETROIT, MICHIGAN
_____ 1940
Rush me details of the new 1940 Norge Refrigerator line. No obligation, of course.
Name _____
Firm _____
Address _____
City _____ State _____
ERN-109

The Oversize NORGE for 1940

AIR CONDITIONING & REFRIGERATION NEWS

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After the Horse Is Stolen

EXAMINING the merchandising methods by means of which the chain stores have become so big a factor in electric refrigeration is a task which possibly should have been done more thoroughly a couple of years ago. To do it now—after the chain store competition has already forced down retail list prices for the whole industry to a point where some manufacturers may not find the business profitable—may be like locking the stable door after the horse is stolen.

Yet that is just what some industry analysts are doing now. And so, in a preliminary way, is the NEWS. Concluded in this issue is a study of the Sears operations — both manufacturing and selling—which attempts to find out some of the reasons why with only 512 dealers (controlled retail stores) Sears has attained third place in the industry.

With Only 500 Dealers, Sales Costs Are Low

Of course the obvious fact that strikes one who examines this study cursorily (and we don't mean "with curses") is that Sears gets its costs down *because* it has only 512 dealers, with attendant low overhead and sales expense.

But there are other things about the operation worth noting —and other factors which have had a big bearing on the results, yet which have been commonly overlooked.

Low Prices Haven't Been Sole Factor In Volume

Sears prices have been so sensationally low for the last few years that few people have looked further than that. They have merely said: "Oh, well, anybody could sell refrigerators at those prices."

To which could be answered: "So? Then why hasn't Montgomery Ward done better, with more stores than Sears, with the same type of distribution, equivalent reputation and clientele, and in some cases, even lower prices?" (Last year was by far Montgomery Ward's best year in refrigeration; yet this chain-store group sold only 80,000 units as compared with Sears-Roebuck's 290,000.) Apparently there's another ingredient or two.

It might be added that Gibson hasn't set any sales records with 6-cu. ft. boxes retailing at $99.50 and $89.50; nor have the private brand refrigerators sold at comparable prices by department and furniture stores cut any considerable swath.

Is it superior quality, then? "No," is the answer to this one, too. The Seeger cabinet is of high quality, of course, and the compressor has a good service record, although a four-vane rotary naturally consumes its share of current. Thus far, despite not inconsiderable efforts to land such business, Coldspot has been unable to sell any of the government housing projects in which operating cost guarantees are a factor leading to purchase.

Is it style? Right, on one count. The Coldspot has been superbly styled. And it has offered newly designed cabinets each year. That has undoubtedly been a factor. Women can't see operating costs, but they are definitely susceptible to styling. (One does not presume to say that the Coldspot has been the *only* well-styled refrigerator, or even the best; merely that the job has been excellent.)

Surprising To Discover Sears Emphasis on Salesmanship

Has it been superior salesmanship? Now here is the big surprise: The answer is definitely "Yes." It is the great Overlooked Factor in the Sears sales volume. Common supposition has been that, at those prices, people came in and practically took them away from the indifferent, untrained salesman. This supposition, it turns out, is all cockeyed. The Coldspot has been sold, and sold hard.

In the first place, Sears stores have *kept their salesmen.* The deplorable high turnover among most retail salesmen experienced by specialty dealers has been avoided by the simple device of paying salesmen a weekly drawing account of $20 a week throughout the year.

True, their commission is only 5%, as compared with the 10% and 12% commonly paid elsewhere. But the numbers of salesmen employed by Sears stores have been restricted, so that each can make a good living because his volume is high. In return, the salesmen are expected to exceed their drawing account in commissions, to do canvassing and night closing, and to sell *all the year around.*

Coldspot Salesmen Have Field To Themselves In Cold Months

Dealers have long insisted—against all the cajoling, inducements, and stunts which manufac—that refrigerators can only be turers have been able to think up sold in the spring months. Yet Coldspot has maintained an unbelievably even production curve throughout the year by two simple expedients which any dealer can emulate. They are:

(1) Pay salesmen a weekly drawing account throughout the year, and demand results.

(2) Concentrate their efforts on refrigerators alone.

"These expedients simply won't work—they are impossible," so many dealers will tell you. Yet there are the facts. They *have* worked, for Sears. Fact is, Sears store managers grin delightedly when they tell you about it. "Our salesmen have the field practically to themselves in the fall," they point out. "There's just no competition at that time; and then is when we creep up on the leaders in total volume."

Chain Stores Have Been Parasites on the Industry

This editorial is not meant as a hymn of praise for Sears-Roebuck. The chain stores have contributed little, if anything, to the advancement of the industry. They waited until other manufacturers had sold the need, created the demand, and proved the quality, of electric refrigeration. They waited until the heavy investments demanded for both market pioneering and engineering development had been absorbed by others, some of whom fell by the wayside in the process. In a very real sense, the chain stores have been industry parasites.

The whole point to this study of methods is simply that there's little to be gained by simply gnashing one's teeth, throwing up one's hands, or screaming to high heavens, and cutting the price again. *Because low prices alone* won't do the trick. They haven't done it for Sears, and they won't do it against Sears.

Sears is able to sell at low prices because it retails through the unprecedentedly low number of 512 dealers, all controlled. The industry has now shown that it can sell refrigerators at practically equivalent prices through many more dealers.

Nubbin of the Formula Is Keeping Good Salesmen

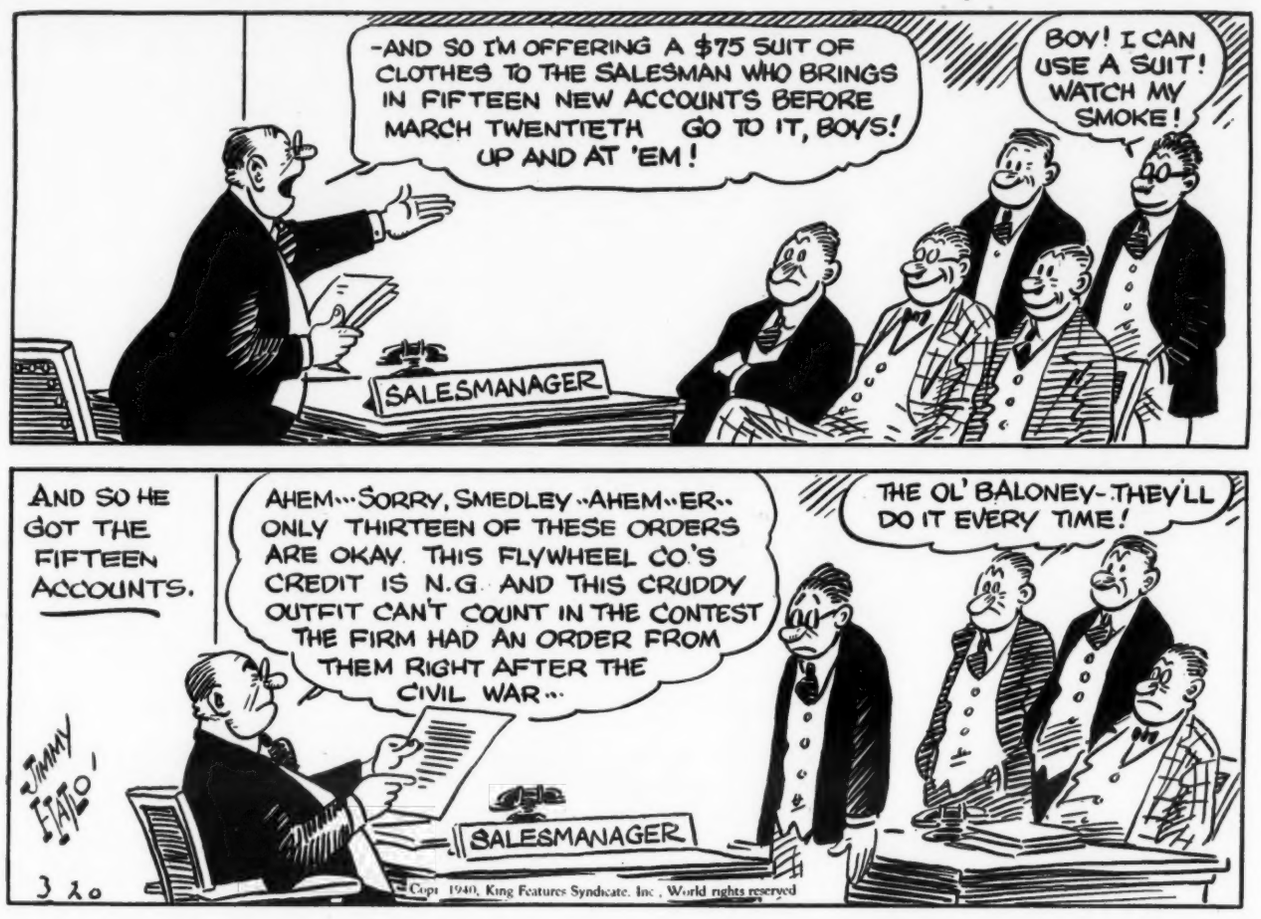
But can individual dealers match the volume of individual Sears stores? They can, if they will employ good salesmen, pay them, and keep them. The nubbin of the whole matter is the salesman.

In the last two or three years retail salesmen have abandoned the refrigeration industry in wholesale numbers. At no time in the last 10 years have there been fewer salesmen out on the firing line. In one sense, that may be a good thing. There have been too many salesmen, just as there have been too many dealers.

If the dealers who are ambitious to become *big* dealers will guarantee an annual income to really good salesmen—which means they can afford to keep *only* the good ones—specialty dealers can once again be the dominating retail factors in the industry.

There is still no substitute for salesmanship in the electric refrigeration business.

They'll Do It Every Time . . . By Jimmie Hatlo


-AND SO I'M OFFERING A $75 SUIT OF CLOTHES TO THE SALESMAN WHO BRINGS IN FIFTEEN NEW ACCOUNTS BEFORE MARCH TWENTIETH GO TO IT, BOYS! UP AND AT 'EM!
BOY! I CAN USE A SUIT! WATCH MY SMOKE!
SALESMANAGER
AND SO HE GOT THE FIFTEEN ACCOUNTS.
AHEM··· SORRY, SMEDLEY··AHEM··ER·· ONLY THIRTEEN OF THESE ORDERS ARE OKAY. THIS FLYWHEEL CO'S CREDIT IS N.G. AND THIS CRUDDY OUTFIT CAN'T COUNT IN THE CONTEST THE FIRM HAD AN ORDER FROM THEM RIGHT AFTER THE CIVIL WAR··
THE OL' BALONEY-THEY'LL DO IT EVERY TIME!
SALESMANAGER
JIMMY HATLO
3 20
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LETTERS

Extracts Only May Be Misleading

Hamburg Brothers
Wholesale Distributors
305 Penn Ave.
Pittsburgh, Pa.
March 30, 1940

Editor:

Enclosed please find a few samples of an item reprinted from the AIR CONDITIONING & REFRIGERATION NEWS issue of March 20, 1940.

We would like to have your permission to distribute these copies to our salesmen.

DWIGHT MAGOWAN,
Advertising Department

Answer: We appreciate the good publicity which will be given to AIR CONDITIONING & REFRIGERATION NEWS by the distribution of the reprints as per samples furnished, and we are granting permission to use the material as shown.

However, we have some misgivings in matters of this kind for the reason that a single statement or paragraph extracted from a news report often has the effect of giving a distorted impression of industry conditions, and particularly our editorial attitude toward certain industry developments.

In the editorial columns we make an effort to present an unbiased picture of news developments. In the process of writing various surveys on particular conditions it often happens that one statement will be made which is counter-balanced by some other statement in the same article. If only a part of the article is quoted, it may give an impression entirely different from that which the reader would gain from reading the whole story in the NEWS.

Such extracts are often used in a manner to support a prejudiced viewpoint or to emphasize only one side of a story. Naturally, such an effect is detrimental to the reputation of the NEWS and misleading to readers of the quoted portion.

We will appreciate it very much if you will avoid any such improper use of the editorial columns and will consult with us in advance regarding any proposed reproduction of editorial material.

Carrier Reprints Servel Executive's Article

Carrier Corp.
Syracuse, N. Y.
April 2, 1940

Publisher:

Many thanks for your letters of March 15 and 28 relative to the permission for reprinting Mr. Aulsebrook's article from the Feb. 28 issue of AIR CONDITIONING & REFRIGERATION NEWS.

We will certainly want to take advantage of your suggestion that we make use of complete copies in the future. Had this proposition not been so far advanced before it came to the attention of the writer, we would certainly have done so in this instance.

We are very grateful for your cooperation in obtaining permission from Mr. Aulsebrook to distribute this material to our dealers. Incidentally, we shall write him direct relative to its distribution.

E. J. LUSH,
Advertising and Sales Promotion Department

Service Manuals To Be Published In Spanish

The Harry Alter Co.
1728 So. Michigan Ave.
Chicago, Ill.
March 29, 1940

Editor:

Within the past month, we have received several more inquiries for your Master Manuals printed in Spanish. I am sure that the printing of these books in Spanish will be most welcomed by thousands of engineers and service companies in Spanish speaking countries.

One of our customers who wrote us today from Colombia, said that he is willing to pay extra for a copy in Spanish. Please let me hear from you regarding printing these very helpful manuals in Spanish.

ALEX PORT,
Export Manager

Answer: We have just made arrangements for the translation of the first manual in the Commercial Refrigeration Service series and we plan to publish it with complete text in both Spanish and English, and with all mathematical data in both English and Metric units, similar in style to the French-English series.

It will probably require a number of weeks to finish this work and we cannot state definitely at this time just when the first book will be off the press. We want to be sure that the translation is entirely authentic and acceptable to Spanish readers.

Please note that all of the refrigerant tables and other mathematical data in the Master Service Manuals on commercial refrigeration have already been converted into Metric units for the French manuals. Since the Spanish reading countries also use the Metric system, and since many Latin-American engineers are familiar with French, it is possible that the French books will temporarily serve their purpose.

Calrod Replacement Units For All Ranges Made Available By G-E and Hotpoint

* * *

BRIDGEPORT, Conn.—A campaign to modernize old electric ranges of all makes now in customers' homes with 1940 Calrod surface cooking units has been inaugurated by General Electric Co.

For some time, General Electric has made these new-style units available, through its distributors, to users of G-E ranges purchased in years past, but this is the first time the plan has been extended to cover electric ranges of all makes.

Newest models of Calrod surface cooking units used in the 1940 electric ranges incorporate marked increases in speed, longer life, lighter weight, greater flexibility, and greater use convenience, it is claimed. Five-speed units were made standard equipment for all surface cooking purposes in the new ranges.

Improved appearance is said to have resulted from chrome-plated stainless steel unit rings which overlap the cooking top, from greater flattening of the Calrod coils, and from a one-piece cupped pan under each unit. Terminals and leads were removed from the spillage zone, and since the unit ring is hinged to the cooking top, the drip pan may be removed and cleaned like any cooking utensil, it is said.

More utensil contact also is claimed for the 1940 units, since the cooking coils have 33% more flattened surface and newly designed rigid supports to keep the coils in place. New design of the drip pan also returns greater heat to the utensil than formerly, it is said, and is another factor making for increased cooking speed.

Weights of the coils also were reduced by from 17 to 33%, resulting in less unit mass to heat. Longer life has been attained by the use of improved nickel-chrome resistance wire, precision coiling to prevent hot spots, and other factors, it is claimed. Exclusive use of Inconnel metal sheathing and terminals hermetically sealed in glass are other features. Field service record of Calrod units is less than one tenth of 1% failure under all service conditions, it is said.

Lower prices of the new Calrod unit also has been an important factor in the modernizing campaign, says J. R. Poteat, G-E range and water heater section manager, especially among electric utility companies. Both giant and utility size units are available for replacement.

* * *

CHICAGO — Newest type Calrod electric range surface units are available for replacement in old electric ranges of practically all makes now in use in customers' homes under a sales program recently instituted by Hotpoint.

The replacement sales plan is designed to serve a double purpose for dealers—sales of replacement surface units, and sales of complete new Hotpoint electric ranges. It is estimated that of the 2,500,000 electric ranges in use today, about 1,000,000 are equipped with old-type surface units.

Simplified replacement has been made possible, it is claimed, through use of seven adaptor rings and four Calrod replacement units, which can be combined to fit almost any electric range. Prices of $7 for utility size units, and $9 for giant size units, have been established.

Complete merchandising plan for the Calrod replacement drive has been worked out, with its feature a combination estimate and order blank to be used in calls on range users. Unsigned, the original constitutes a memorandum for the range owner of her replacement specifications and their cost; signed, it becomes an order for the replacement materials specified.

Promotional material also includes a direct-mail piece, a counter display, and a combination visualizer and book, giving salesmen the Calrod sales story.

Eureka Drops Manufacture Of Portable Range

DETROIT—Eureka Vacuum Cleaner Co. will discontinue manufacture of the portable electric range it has been producing, as soon as materials now on hand have been used up, an official of the company reported.

Reason given for the discontinuance is that the company wishes to concentrate all of its manufacturing facilities on vacuum cleaners.

Portable Model Features New Easy Ironer Line; Lists At $39.95

SYRACUSE, N. Y.—Highlight of the 1940 line of Easy ironers recently introduced is the Porta-matic, first portable ironer to be marketed by the company. List price of the Porta-matic is $39.95.

Also included in the line are four all white, table-top model ironers designed for step-up selling.

The portable ironer weighs 32 lbs., has two ironing speeds and a three-way heat control, with a shoe-element wattage of 1,200.

Other features include hand or foot controlled roll stop for pressing, automatic cord rewind reel, fabric heat guide, torque tube pressure principle that is said to give uniform pressure over the entire shoe area. Carrying handle makes the ironer easy to handle, and allows it to be hung on a closet hook for storage.

Features in the Easy cabinet ironer line is the model 140, a table-top ironer with three speeds, three heats, adjustable knee control, foot controlled roll stop, and clothes rack.

Dishwasher-Sink

Hotpoint's new two-rack dishwasher models, supplementing the single-rack line, have front-opening doors so they may be installed in existing cabinets or sinks without expensive changes.

NON INCAUTUS FUTURI
THIS IS THE COAT OF ARMS OF GENERAL LEE
The Symbol of a Man Who Gave His Country His Very Best
UNIVERSAL COOLER
THIS IS THE SYMBOL OF UNIVERSAL COOLER CORP.
Who Always Try to Surpass the Best
Because we supply the nation's foremost manufacturers of refrigerating, air conditioning and liquid cooling equipment with condensing units, it is our job to incorporate every proved advancement and valuable refinement in our equipment. By this policy of constant research we have earned a reputation for having made the best, with an eye to making it better. Manufacturers are invited to write for complete information.
UNIVERSAL COOLER CORP.
DETROIT, MICHIGAN
In Canada: Universal Cooler Co. of Canada, Ltd., Brantford, Ontario

Bendix 'Utility' Laundry To Sell For $99.50

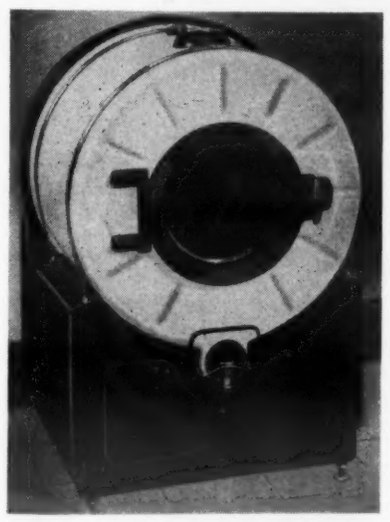
SOUTH BEND, Ind. — A new Bendix product, to be known as the Utility model Bendix home laundry, has been announced by Bendix Home Appliances, Inc., at a retail price of $99.50 in a bid for low-priced washer business.

The new model, which is almost identical in appearance with the Standard Model introduced in 1939, is of the same capacity as the Standard or the original Deluxe model which was brought out in 1937.

According to the manufacturer, the new Utility model washes, rinses, and damp-dries in exactly the same manner as the higher priced models, the chief difference between the lower priced machine and its predecessors being that the latter are fully automatic, whereas the operator manually sets the control dial on the Utility model for the various washing, rinsing, and damp-drying cycles.

In presenting the new model and the plans for merchandising it at recent meetings of distributors and dealers in various cities, J. S. Sayre, vice president in charge of sales, said: "In 1938, with only the Deluxe model, our company—according to Washing Machine Association figures, sold nearly 50% of all washing machines in the over $100 price classification. In 1939, with two models, Standard and Deluxe, we sold over 50% of all washers sold in the over $100 price classification.

"With the addition of the Utility model at the low price of $99.50, we feel that we can obtain a large percentage of the sales in the below $100 price brackets without in any way disturbing our market for higher priced models."



New Bendix Utility Model

Since the advent of the first Bendix home laundry, Mr. Sayre said, the average price of all washing machines has declined from $72.24 in 1937 to $68.20 in 1939; while "spinner" prices, which ranged from approximately $139.50 to $169.50 in 1937, dropped to a range of from $89.50 to $119.50 last year.

Advertising and sales promotion manager Parker H. Ericksen announced an extensive campaign in trade papers, to be followed by a campaign in national magazines and metropolitan newspapers. In addition, dealers will be given cooperative promotional support.

Texans Warned Against Time Payment Laws

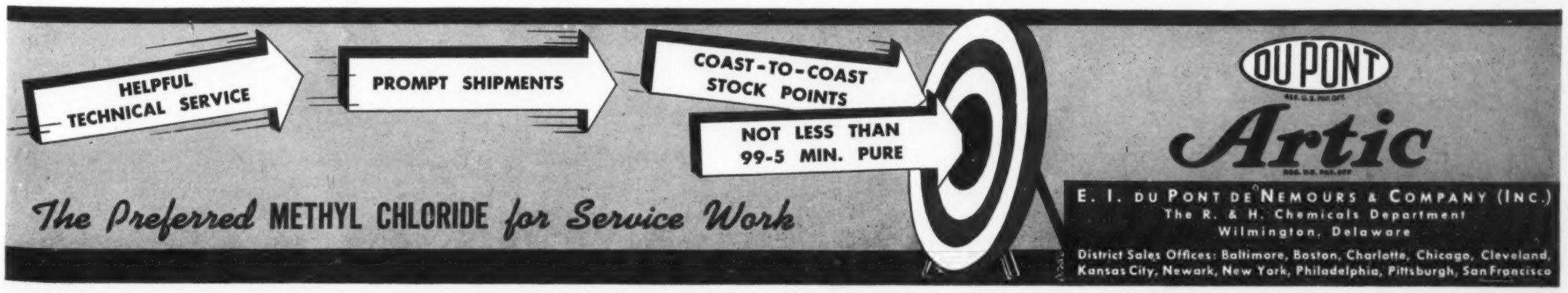
HOUSTON, Tex.—Texas appliance dealers and other retailers were told to resist attempts to enact state laws for regulation of instalment selling by Dr. David Craig, president of the American Retail Federation, speaking before the Retail Merchants Association of Houston.

Declaring that 11 states have enacted laws regulating instalment selling, Dr. Craig said: "Such laws are not necessary. Retailers must correct themselves. It's a dangerous thing when organizations have to pass laws to keep their members in line."

The speaker also hit legislation pending before Congress to permit government-aided cooperatives to handle products other than farm machinery and farm accessories. "If you let the consumer cooperatives branch out into other fields, as this legislation will do, you will cut your own throats," he said.

Tire Merchant Takes on Stewart-Warner Line

MARION, S. C.—Tindal's Tire Store has been appointed dealer here for Stewart-Warner refrigerators and radios, and for Hotpoint ranges and water heaters. W. W. Tindal, proprietor, also owns a service station next door to his store, and plans on promoting appliances through his service station clientele.


HELPFUL TECHNICAL SERVICE
PROMPT SHIPMENTS
COAST-TO-COAST STOCK POINTS
NOT LESS THAN 99-5 MIN. PURE
The Preferred METHYL CHLORIDE for Service Work
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E. I. DU PONT DE NEMOURS & COMPANY (INC.)
The R. & H. Chemicals Department
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District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

From Plant Employe To Top-Flight Distributor —That's 5-Year Record of Tyler's Detroit Man

DETROIT—From a desk job in the main office of a commercial refrigeration manufacturing firm to sole ownership of one of that company's better distributorships—and all in the relatively short span of five years—that's the story of George W. Syler, distributor here for the Tyler Fixture Corp. line of all-steel food store equipment.

Literally a rank newcomer to the commercial refrigeration business when he first joined the Tyler company just five years ago, Mr. Syler now not only heads his own distributing organization but also for the last couple of years has been one of Tyler's leading salesmen, running well up in most of the firm's nation-wide sales contests. Last year Mr. Syler was third largest, in point of sales volume, of all Tyler distributors.

Let's start at the beginning, though. Born and bred in Alabama (he still has more than a touch of that "down yonder" accent), Mr. Syler was graduated from the University of the South at Sewanee, Tenn. in 1933. Having no job either in hand or in the bush, he decided to "see the world" the easy way, and so headed for the Century of Progress Exposition in Chicago.

After "doing" the fair, he drifted on (still with no job) to Niles, Mich. to visit friends. Here it was, in the home town of the young and growing Tyler Fixture Corp., that he settled down for a while—but not with Tyler. In fact, he had lived in Niles for about two years—working at all sorts of jobs but still looking for something with some promise of a future—before he even knew what the Tyler firm manufactured.

It was through a friend of his wife's, an employe of the Tyler organization, that he finally learned of an opening in the company's purchasing department.

"I didn't know a thing about the purchasing business," Mr. Syler explains, "but I figured if they gave me enough money I could buy things all right." But when he went to see about this job the executive he interviewed had other ideas. "I think you'd fit in better in the sales department," he told Mr. Syler.

"And so," as Mr. Syler tells it, "I was put to work in the complaint department, answering all kinds of kicks by people who were having trouble with their cases in the field." After several months of this kind of work, the company decided to capitalize on Mr. Syler's southern accent and sent him down below the Mason-Dixon line to pacify some of the firm's truculent distributors and dealers in that area.

So successful was he at this task, that on his return he was sent to Detroit to work out some difficulties with the Tyler distributor there. He got along so well with this distributor, George J. Hayes of All-Metal Store Equipment Co., that Mr. Hayes offered him a job with his organization.

"I turned him down flatly at first," explains Mr. Syler, "because I was very well satisfied with my job at the factory, but later the proposition was made to sound so attractive that I accepted.

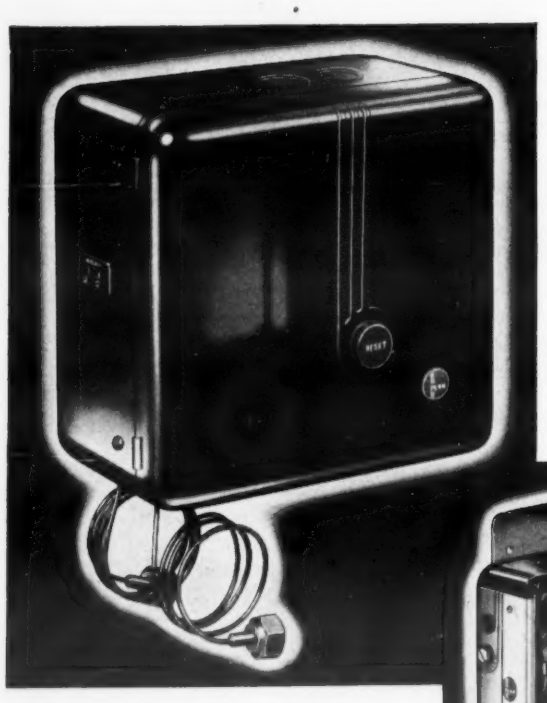
"I had worked with Mr. Hayes for a little more than a year when he decided to go off on a Florida vacation for a few weeks. He left me in complete charge of the distributorship while he was gone. It was then that I decided that if I could run Mr. Hayes' business for him, I could just as well run a business of my own.

"So, in April, 1938 I started out for myself. Prior to this time, Mr. Hayes had taken on another line of commercial refrigeration equipment, so I made a deal to handle the Tyler line and become that company's distributor here.

"Due to the fact that I started out without much capital (in fact Mr. Syler admits that he was actually on the red side of the ledger when he opened his own store), the first few months were pretty tough sledding. Sales were few and far between at first, and the business was definitely on a hand-to-mouth basis. But then, just when I was about to give up the ghost, a couple of "connections" that I had been working on finally clicked, and I got the assistance I needed."

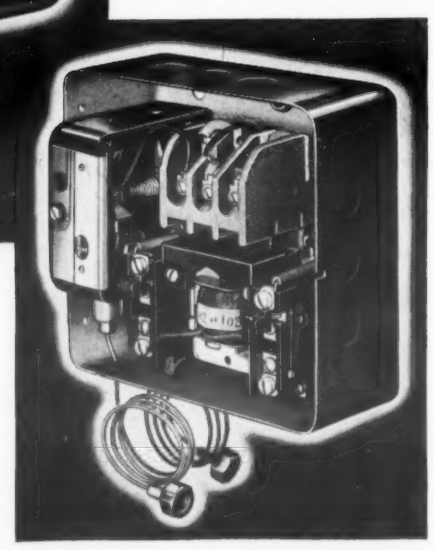
At present, Mr. Syler employs one full-time and one part-time salesman. He sublets all installation and service work, but has a man who comes in fairly regularly to fix up old cases taken as trade-ins and to prepare these jobs for re-sale. In addition to the Tyler equipment, Mr. Syler handles the Moss line of frosted food cabinets and ice cream cabinets, and the National line of scales, slicers, and grinders.

Here is a Practical Short Cut on Compressor Control Installations



Now, Integral Horsepower Jobs Can Be Installed As Easily As Small Units

No longer is it necessary to install and wire separate pilot control and starter on integral horsepower refrigeration and air conditioning installations. In the past, there were three line voltage conduit or BX "runs" to make—one from the entrance switch to the starter—one from the pilot control on the compressor to the starter, and one from the starter to the compressor motor. Now, there are only two, with the new Penn Multi-function Controls. And, another advantage—you can pick up this new combination unit at your regular refrigeration accessory supply house, and save time before going on the job.



Trial Installations Will Show Many Advantages

Line connections to starter and to compressor motor complete the wiring (at left).

Floating type, spring and rubber starter mount, to eliminate noise and vibration, is shown below. Catalog bulletin describes many other exclusive features.

Now, single unit mounting and wiring replaces the old, more costly two-unit installations.

Practical Combination of Standard Control Units

Penn Multi-function Compressor Controls are not a new, untried innovation. Briefly described, they combine in one case —**1.** A heavy duty, industrial type solenoid or magnetic starter with overload protection. **2.** A low side pressure, dual pressure, temperature or dual temperature pilot control, as specified and required by the installation.

Pilot control is available for same temperature and pressure ranges as standard Penn 260 and 261 Series refrigeration controls. The line starter is supplied in NEMA Size 0 or NEMA Size 1—for compressors to 5 H.P. single phase, 7½ H.P. polyphase. The entire unit is housed in one compact case with pilot control wiring completed.

Many manufacturers of compressor equipment and self-contained cooling units already have won the approval of service engineers by supplying these complete control units as standard on their equipment, with all pilot and motor wiring already made.

Complete engineering data, including pressure and temperature specifications, electrical rating, and wiring information, now available in new catalog literature just off the press. Write for your copy today. **Penn Electric Switch Co., Goshen, Indiana. In Canada—Powerlite Devices, Ltd., Penn Electric Switch Division, Toronto, Ontario. Export—100 Varick St., New York City. Branches, representatives and distributors in all principal cities.**

Pressure and Temperature Specifications

Other ranges and differentials available. See complete catalog bulletin.

RANGE	DIFFERENTIAL
20" to 60 Lbs.	6 Lbs. to 35 Lbs.
20" to 50 Lbs.	5 Lbs. to 25 Lbs.
20" to 50 Lbs.	4 Lbs. to 8 Lbs.
—15°F. to 25°F.	3°F. to 7°F.
—15°F. to 25°F.	7°F. to 20°F.
— 5°F. to 40°F.	3°F. to 7°F.
— 5°F. to 40°F.	7°F. to 20°F.
20°F. to 65°F.	3°F. to 7°F.
20°F. to 65°F.	7°F. to 20°F.

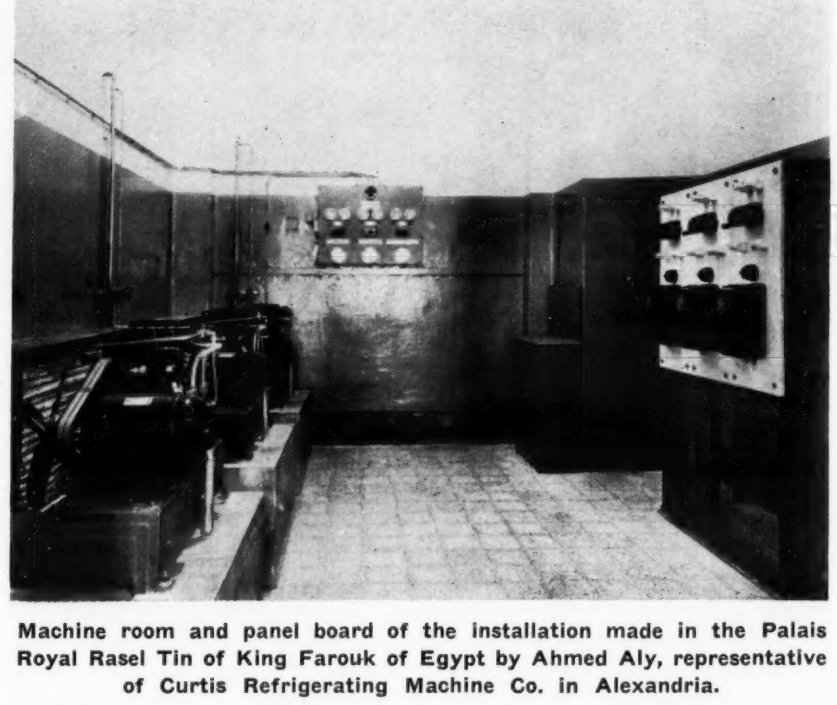
More information on what Penn Controls will do for you—One of a Series.

PENN

Penn-Built Controls for Many Applications

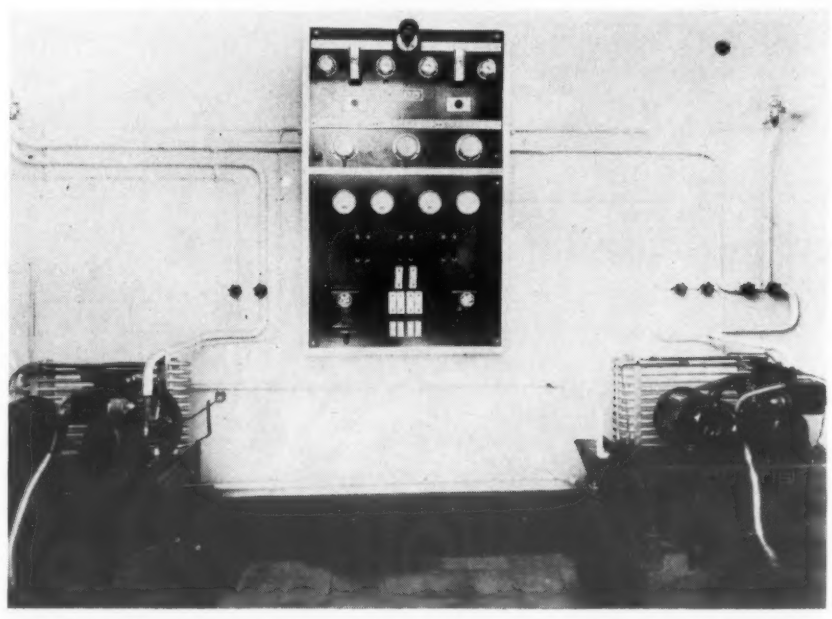
Thermostats, Bonnet Controls, Ductstats, Fire Protection Controls, Water Temperature Controls, Boiler Pressure Controls, Boiler Water Level Controls, Humidistats, Stack Switches, Stoker Timer Relays, Solenoid Gas Valves, General Purpose Relays, Solenoid Refrigerant and WaterValves, Refrigeration Pressure and Temperature Controls, Water Valves, Pump Controls, Air Compressor Controls, Air Volume Controls, Line Starters.

Fit For A King



Machine room and panel board of the installation made in the Palais Royal Rasel Tin of King Farouk of Egypt by Ahmed Aly, representative of Curtis Refrigerating Machine Co. in Alexandria.

Dairy products storage room of another royal installation made by Mr. Aly, this one in the Palais Royal de Montaza.



Machine room and control panel of Palais Royal de Montaza installation.

* * *

Egyptian Salesman 'Works His Way Down' To Success In Commercial Refrigeration

ALEXANDRIA, Egypt—This is the story of a man who is reversing the usual "success story" formula, because he is starting at the top and working down.

It is the story of Ahmed Aly, representative for the Curtis Refrigerating Machine Co. here in Alexandria. When he took on the Curtis line some years ago refrigeration was little known and Mr. Aly did a vast amount of introductory work —at the bottom—trying to secure a foothold; but the Horatio Alger theory apparently doesn't always work so well in Egypt.

So Mr. Aly decided to reverse the theory and start at the top—which he did by going direct to no less a personage than King Farouk of Egypt with the idea of selling him on a plan for modernizing the storage facilities for perishables in the King's palaces.

The King was "sold" and Curtis equipment was installed in the Palais Royal Rasel Tin. Machine room and panel board of this very neat installation is shown in one of the photographs.

The installation at the Palais Royal Rasel Tin proved successful and Mr. Aly secured the contract for the Palais Royal de Montaza, photographs of the machine room and the dairy products storage in this installation being shown on this page.

Curtis has shipped equipment to be installed for the Palais Abdine at Cairo, and Mr. Aly advises that the fourth of the King's palaces will probably be equipped in the near future.

Installations in the palaces have put Mr. Aly well on his way to success in Egyptian refrigeration work, and he is now selling equipment "down the line" in typical commercial applications.

Special 'Sharp Freezer' For Frosted Foods Built Into Walk-In Refrigerator In Milwaukee Restaurant

By Henry Knowlton

MILWAUKEE — Joe Deutsch, owner of Joe Deutsch's Cafe, nationally famous restaurant, is proud of his place of business, from the hand carved woodwork on the front, to the Carrier air conditioning and commercial refrigeration installed in the basement of the building. Joe is particularly proud of the "sharp freezer" built inside the regular walk-in cooler which is used for the freezing of meats and fish and for the storage of frozen foods.

Customers entering the restaurant realize that Mr. Deutsch has not spared expense to make his cafe comfortable and attractive. Hand painted murals of German scenes in the bar attract the eye, air conditioning with ample fresh air supply keeps the dining rooms at the correct temperature and free of smoke, and the quality of food and beverages served proves that refrigeration has been used for their preservation.

'SIX IN ONE' SYSTEM

Commercial refrigeration equipment used in Mr. Deutsch's cafe includes a walk-in refrigerator, a sharp freeze room, a bar refrigerator, a back bar refrigerator, a direct-draw beer system, and a reach-in refrigerator in the kitchen. These units are all powered by a 1½-hp. Carrier compressor.

The reach-in refrigerator, which is insulated with 4 inches of cork measures 8 x 8 x 6 feet high. The box is kept at 40° F. by a model 1403 Carrier cold diffuser equipped with a fan economizer. Inside the walk-in refrigerator is the "sharp freeze" compartment, which is insulated with 4 inches of cork.

This small room is kept at temperatures ranging from 15° below zero to 15° above zero, as required, for freezing meats and fish, and for the storage of frozen foods. Bare copper tubing installed on the sides and ceiling of this compartment is used as a direct expansion coil to maintain the correct temperature. Defrosting is accomplished as necessary, by simply opening the door of the compartment.

AIR SWITCH CONTROL

Temperature control in the sharp freeze compartment is handled by an air switch located inside the freezer which operates a solenoid valve located in the "Freon" liquid line. The compressor operates at minimum suction pressures and all other refrigerators are controlled by two-temperature valves. Six expansion valves are used on the six separate refrigeration units.

In the direct-draw beer cooler, lines running from the kegs, which are kept in the walk-in refrigerator, pass through a 4-inch galvanized sleeve, which is insulated with 2 inches of hair felt. One ⅝ inch refrigeration line is also run through the sleeve, to keep the beer lines at 40° temperature. Pressure is maintained on the beer by a tank of CO_2 gas connected to the beer kegs.

The three reach-in refrigerators are kept at 38° to 40° F. temperature by means of standard type finned coils normally used in commercial refrigeration systems.

Air conditioning is provided for the bar and restaurant by a 5-hp. Carrier self-contained central station conditioning unit installed in the basement. This unit has a fresh air connection, and the amount of fresh air used is controlled by a positioning damper regulated by a switch located in the hallway between the two conditioned rooms.

When the restaurant is crowded and many people are smoking, the fresh air supply can be increased. At other times the amount of fresh air can be reduced in the interest of economy of operation.

Temperature control on the air conditioning system is by means of a room thermostat and a ductstat located in the return duct which controls the tempering coil in the outside air connection.

TEMPERING COIL

This tempering coil is designed to supply 70° F. air when the outside temperature is 20° below zero outside. Steam for this purpose is provided by an oil burning boiler located in the basement near the conditioning unit.

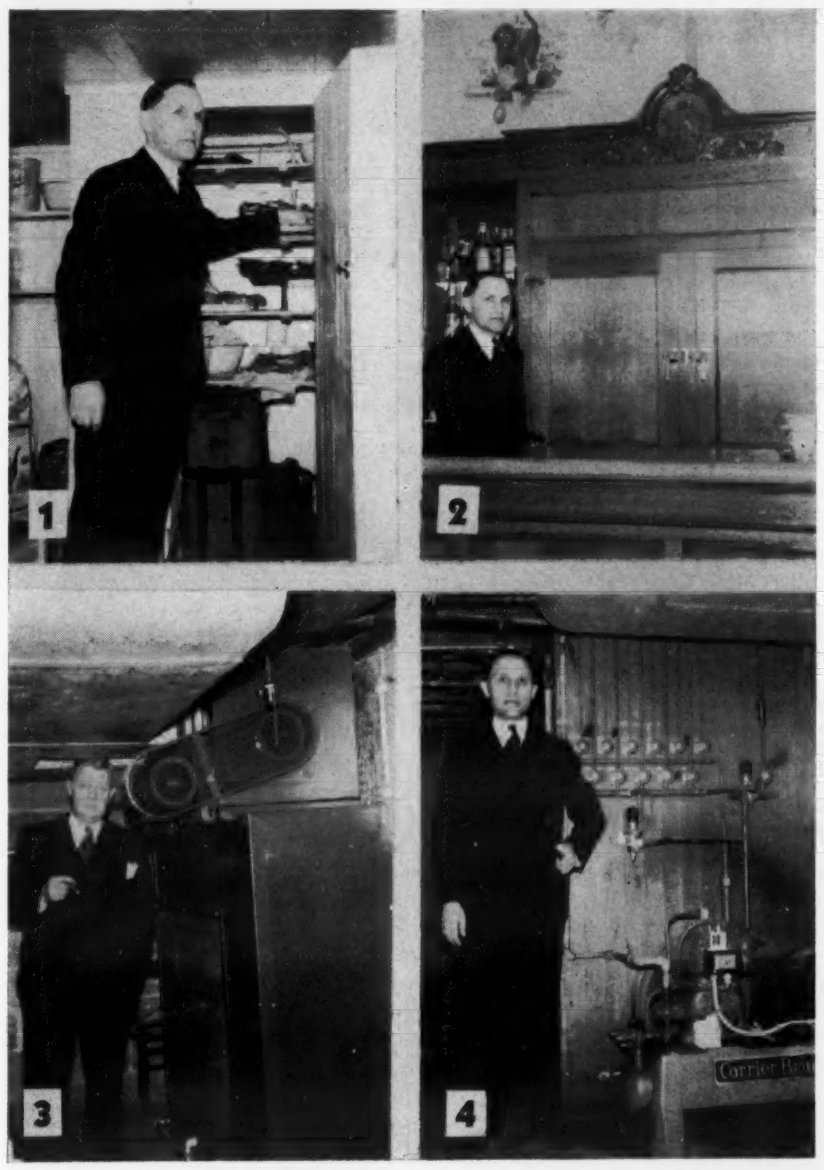
The unit handles 2,000 c.f.m. which enters the restaurant and bar through six directional flow grilles located near the ceiling on the inside walls of the rooms. The supply duct running through the kitchen is insulated with 1 inch fire resistant structural insulating board. Both fresh and return air is filtered by Owen-Illinois throw-away type filters.

Both the commercial refrigeration and air conditioning equipment was installed by the Standard Distributing Co. of Milwaukee.

G-E Orders Up 12%

SCHENECTADY, N. Y.—Orders received by General Electric Co. in the first quarter of 1940 amounted to $97,490,047, compared with $86,882,953 for the corresponding period in 1939, an increase of 12%.

Good Equipment—Good Food



(1) Joe Deutsch at the "sharp freezer." (2) Walnut back bar reach-in. (3) J. R. Witthuhn, Standard Distributing Corp., checks the restaurant's conditioning plant. (4) Six-way commercial hook-up.

Everywhere it's the double security of SYLPAK

FRIGIDAIRE
Phosphor bronze disc reinforces top of Sylphon
Short, husky stainless steel stem will not bend. Held open by large bronze spring.
Extra large approved bronze Sylphon with soft copper flange to make tight joint under bonnet. Sylphon travel restricted to less than its capacity and extra deep convolutions prolong life to more than 100,000 cycles.
All seats protected with lead protectors until used.
Swivel button relieves twisting strain from sylphon
Wheel fits groove of bonnet. Handle swedged and securely locked to bonnet
Steel nut makes firm pressure seal between bonnet and body.
Special sprint loaded packing holds gasket whether valve is in open, closed or partially open position and prevents pulsations from reaching Sylphon.
60° seat assures a positive and easy seating action.
Raised portions of base form socket which takes

HERE is an installation of Sylpak valves that is typical of the following that these "double security" valves have built up.

These two compressor units are a part of a battery of fourteen that are installed in one of the world's largest and most modern drug stores on State Street in Chicago. The contractor chose Sylpak valves for the same reason that air conditioning and refrigeration men everywhere are choosing them—because they provide the double security of the Sylphon plus a good spring loaded packing at a cost no greater than ordinary packless valves.

Take a look at the sectional view of this valve. Note the sturdy compactness of the Sylpak valve . . . the short husky stainless steel stem . . . the extra large Sylphon that withstood more than 100,000 openings and closings under test in the Underwriters Laboratories.

Here is a valve that stays tight under every operating condition. It stands up under pulsations, vibration, excess pressure and can be used with any refrigerant except ammonia.

With ordinary valves a certain amount of seepage may take place after the valve becomes slightly worn. The annoyance from fumes as well as the possibility of property damage in certain types of installations, has brought about a very definite demand for a valve that would afford positive protection against such leakage under every operating condition. The Imperial Sylpak valve entirely eliminates any possibility of such seepage troubles even with the most penetrating types of refrigerants.

These valves are available for tube diameters from ¼" to ¾" for S.A.E. or solder fittings as desired. Sylphon type valves can also be furnished in sizes up to 1½" female I.P.T. and 1⅝" O.D. tube size.

If you are not using this double security Sylpak Valve we suggest that you specify them on your next order to your jobber.

THE IMPERIAL BRASS MFG. CO.
565 S. Racine Ave., Chicago, Ill., U. S. A.

IMPERIAL Refrigeration and Air Conditioning Products

How a Diagnosis of Apple Storage Job Showed Need For Corrective Measures In Many Parts of the System

Editor's Note: W. C. Roberts, who wrote the following article at our request after the editors had heard about his intelligent job of diagnosing troubles and recommending changes in the apple storage installation described, says of himself:

"I started working around engine rooms at 16, as general handyman at night and after school, and have been at it ever since. My apprenticeship in refrigeration was for Swift & Co., beginning when I was 20. I later worked for Bridgeman Russel, a creamery chain.

"I spent my first five years in California with the Fruit Growers Supply Co. Left San Francisco three years ago because of the labor situation existing there and have been running a small business at Watsonville. I have learned a great deal about the local apple problems and added to my refrigeration knowledge in general. I have two refrigeration engineers growing up in my home and they are hard on tool kits."

Apple Storage Consultant

W. C. ROBERTS

By W. C. Roberts

Apple growers of the Pajaro Valley in California have used mechanical refrigeration for the past ten or fifteen years in the storage of Pippin, Bellflour, and Newtown apples.

The refrigeration equipment used has generally consisted of direct expansion coils in bunkers, with a turbo-type fan moving the air through the storage rooms and over the coils.

The coils frosted heavily causing frequent shutdowns for defrosting, with a resulting wide fluctuation of temperature and humidity. It also took sixty to ninety days from the time the storage house was filled until the apples were brought down to proper temperatures. Each year the apples came out with a high percentage of browning, scald, bitter pit (or bitter rot), and shrinkage.

BRINE-SPRAY SYSTEM

About two years ago, Ruso and Coprivizia, two of the most progressive apple packers in the Pajaro Valley, concluded that there must be a better way to handle these apples. After considerable investigation, a plant was constructed which made use of a brine-spray system. However, with this plant Ruso and Coprivizia experienced a loss of about 60% on their 1938-1939 apples.

In the spring of 1939, knowing that I had made a study of the local apple storage problems for the past two years, Ruso and Coprivizia asked me to make a study of their plant. I found them to have two cold storage rooms 50 by 55 by 22 feet, with a total capacity of 70,000 boxes of apples. These rooms are insulated with 6 inches of redwood fiber in the walls, ceiling with 8 inches and 4 inches of sheet cork, hot dipped in asphalt.

The compressor as originally installed consisted of one 6 x 6 ammonia compressor, turning at 325 r.p.m., driven with a 20-hp. motor.

Other equipment in the refrigeration system included one shell and tube double-pass condenser 10 inches by 10 feet, a brine spray cooler 4 by 7 by 6¾ feet with a 5-hp. brine pump circulating the brine at 20 lbs. pressure through a battery of spray nozzles, spraying the brine over 650 feet of galvanized serpentine coils which are headered both top and bottom and operated full flooded, ammonia being fed in by a ball-type high-side float. The top header is connected to an accumulator 10 inches by 6 feet in size.

Warm air was drawn out of the rooms through suction ducts to a main plenum and through the brine washer by a type 95 Sturtevant fan driven by a 10-hp. motor. The fan delivered about 16,000 c.f.m. at 1¼ inches S.P.

HOLES IN AIR DUCTS

The duct system was designed with the cold air being delivered down the center of the room, and the warm air being taken out along each wall. All the air ducts were 24 inches deep, and 36 inches wide overhead, with slide openings on the bottoms. On both suction and discharge ducts there were 3-inch holes set 8 inches apart. The apples were piled within 6 inches of the walls, with a 4-foot aisle down the center of the room.

Upon making a study of the plant, I found the fruit in worse condition than that in any other storage. The plant was operating with head pressures ranging from 180 to 210 lbs., and the power costs were excessive.

The head pressure caused the high pressure switch to cut out and interrupted the continuous operation of the compressor, which is necessary during loading time. This condition continued during the storage season and the machine could not be made to stay on the line long enough to maintain proper air temperatures.

TROUBLE WITH AIR DELIVERY

After a careful check with calibrated instruments, I found that neither the air ducts or the fan were big enough to deliver the proper amount of air during the different stages of cooling. Also, the 3-inch holes along the upper side of the ducts allowed too much air to short circuit across the top of the load and the slide openings in the suction duct were not equipped so they could be regulated after the storage was filled.

Temperature control was by a Mercoid thermo-control with the thermo bulb immersed in the brine, which gave too wide a split between the brine and air temperatures.

CHANGED CONDENSER

The rectify the condition in the engine room, I recommended a 10 inch by 14-foot condenser with multi-pass head, also a more direct passage of water from the condenser to the tower, taking out five elbows or bends, thereby lowering the amount of resistance and allowing more water to pass through the condenser and over the tower. When this was done the head pressure was brought down to 165 lbs. and lower.

The compressor motor was changed to a 20-hp. motor with a low starting torque. These two changes brought about a saving in power consumption.

MUST COOL APPLES QUICKLY

From my past observations of the conditions in the valley, I believed that to keep these species of apples in storage, it was necessary to cool them down as quickly as possible after their arrival. Also that high humidity would be an advantage.

It was my belief that to cool these apples it would be necessary to move 30,000 c.f.m. at 1¼ inches S.P. To do this I recommended a 155 Sturtevant fan, operating at 495 r.p.m.

I also recommended that the supply and suction air ducts be increased in size to 36 by 56 inches with the supply ducts feeding in cold air down both sides of the room, building up the pressure in the rooms and forcing the air through the load into the center aisle where the warm air is picked up by suction ducts.

Another suggestion was to put hinged doors in the supply ducts with threaded wire cables on swivel pulleys from these doors, which cables would go up along the ceiling to the middle aisles, where they would be fastened to numbered pegs, thus giving control of the air distribution after the storage room was loaded.

CHANGES IN FAN

A variable speed pulley was installed on the motor that drives the fan so that the air velocity could be regulated by changing the speed of the fan. Where the air goes out into the main supply and suction ducts from the main plenum, curved vanes were installed to help direct the air, cutting down friction losses in the air supply.

The brine washer was designed originally for 16,000 c.f.m. airflow, and in order to handle 30,000 c.f.m. it was necessary to make a bypass chamber for the additional 14,000 c.f.m.

PREVENTING FROSTING

By keeping the brine which sprays over the coils at a 70% density, we eliminated frosting, and thus are getting a maximum capacity from the coils. We were able to operate at from 27 to 30 lbs. back pressure, which affords an increased tonnage per horsepower over the dry expansion coil used in other storages. We maintain 90% relative humidity, eliminating a high percentage of shrinkage.

In operation of this new system during the loading season, we were able to take in 2,500 boxes of apples per day, cooling them from 70° to 38° F. at the rate of 2° per hour. By the time the storage was loaded, we were down to our initial temperature of 36° F., and it was no longer necessary to deliver a high velocity of air, so we were able to slow the fan down to 18,000 c.f.m. and close part of the dampers in the supply and suction ducts, and thus reduce operating costs.

We also got better results by changing the temperature control instrument, putting the thermo bulb in the air steam of the return plenum, which permits a 2° split in temperature.

The storage has given excellent results thus far, but we believe there is a long way to go, and a lot to be learned about handling these apples, and that really successful storage depends on cooperation from the grower, as it is my opinion that many storage problems begin in the the field.

Heat Exchange Institute Issues New Bulletin

NEW YORK CITY—"Standards of the Deaerator and Deaerating Heater Section" have been published by Heat Exchange Institute to complement its series on surface and barometric condensers and steam jet ejector standards.

The new publication contains recommendations on nomenclature, definitions, construction, ratings, accessories, and a typical specification. This specification feature has been planned to assist the designing engineer in furnishing the information necessary for construction of the proper unit.

Copies of the publication are available from the institute at a price of 75 cents per copy.

William A. Krasselt of Cramer-Krasselt Dies

MILWAUKEE—William A. Krasselt, chairman of the board of the Cramer-Krasselt Co., died suddenly here last week. One of the founders of the pioneer advertising agency organized in 1895, Mr. Krasselt was a prime mover in the forming of several organizations that have advanced advertising to its present position.

He was one of the founders of the National Audit Bureau of Circulation, and was active in developing the National Better Business Bureau and formulating plans of the American Association of Advertising Agencies. His company was a charter member of the latter organization.

Prior to the turn of the century he was one of the founders of the Badger Wheelman, a bicycle publication that had a wide circulation.

A thirty-second degree Mason, Mr. Krasselt was a member of the Milwaukee Athletic Club, the Elks lodge, and the Blue Mound country club. He was also a director in several industrial, business, and financial concerns.

Mr. Krasselt, a batchelor, was a native of Milwaukee. He is survived by two sisters, the Misses Anna E. and Harriet Krasselt, of this city.

MUELLER BRASS CO.

Improved HEAT EXCHANGER

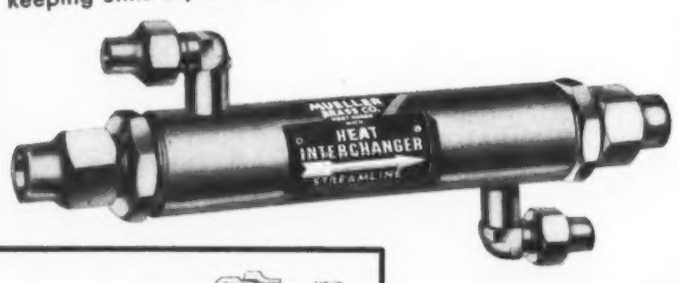
Compact and Efficient For Ice Cream Cabinet Installation

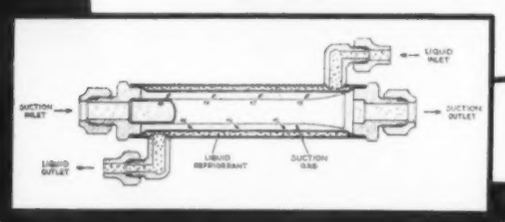
● The Heat Exchanger illustrated below is an addition to our line and intended for use in ice cream cabinet work and in similar installations where a small, compact, yet very efficient heat exchanger is required. Note that overall length is only 8¼".

It is designed to provide maximum heat exchanging capacity where available space is at a premium. Special combinations of inlet and outlet fittings can be furnished so that this compact unit can be adapted to your particular requirements.

Catalog No.	Suction Line	Liquid Line	Overall Length	Heat Transfer Area
A-13730	½" Flare	¼" Flare	8¼"	18 Sq. In.

Flare Nuts and Seals are furnished with Exchanger, thus keeping units dry and clean.





MUELLER BRASS CO.
PORT HURON, MICH.

SOLVED
THE PROBLEM OF AIR DISTRIBUTION IN CHILL ROOMS

The DOUBLE QUADROFLO *dispenses air laterally in all directions.*

Adaptable to single or multiple unit installation

Requires only 17½" of space down from ceiling

May be erected over meat racks thus preventing blast that causes shrinkage and discoloration.

Proper baffling prevents air pocket or short circuiting

Assurance of desired relative humidity not a problem

JACKSON ACME INDUSTRIES, INC. MICHIGAN

From 1/4 to 25 TONS of refrigeration

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration... Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY

A Plan For Installing Low Cost 'Unitized' Air Conditioning In Small Theaters

Use of Some Original Application Ideas Can Make Possible a Volume Business, Says Carl Boester

By Carl F. Boester, Consulting Engineer, St. Louis

Believe it or not, even though theaters were the early guinea pigs of the pioneer air conditioning engineers and are still the back-bone and volume business of the air conditioning industry, less than 10% of the nation's theaters have full summer air conditioning—ventilating, filtering, cooling, dehumidifying, and circulating all accomplished simultaneously. Practically none have year-around air conditioning.

MARKET IS READY

Therefore, there is today a big opportunity in the summer conditioning of theaters, particularly those of 800 to 1,000 seating capacity that haven't invested in cooling because of its cost. These are the small community or neighborhood type theaters with nominal admission charges that neither permit nor justify an initial expenditure of more than $8 to $10 per seat of capacity for cooling, and must be assured of limited operating costs.

With this situation in mind, the following suggestions are made for a successful solution. To illustrate, let's take a 600 seat theater operating four hours per evening. Such a theater will probably have a Saturday or Sunday matinee, or both, so the maximum number of hours of operating time in any 24 is about eight.

THE LOAD FACTOR

It is customary to allow about 15 seats per ton of capacity, which would make this load 40 tons. To make cooling at all practical for this example, contemplates the use of storage refrigeration, a principle by which a small compressor produces and stores up enough energy in 24 hours to equal the cooling effect of a 40-ton machine in eight hours.

The 40-ton load in an eight hour period with a usage or load factor of 60% will require or consume the equivalent of about 7½ tons of ice. Therefore, it is necessary to produce and store up in any one 24 hour period only this amount of energy.

'UNIT' STORAGE EQUIPMENT

Recently there has been designed and made available unitary storage refrigeration equipment. This consists of an insulated tank, an evaporator coil of 1½ tons of ice accumulating capacity, a 2-hp. air-cooled compressor (of a variety of makes), a motor, all controls, charged with "Freon," and all ready to operate except for wiring connection to the motor, and supply and return water pipe connections to the tank. These will go through any door and are light enough to be handled easily.

For the load given in the example above, five such units will be required. These are hooked up to the electric line in parallel to a line large enough to handle a total of 10 hp. The controls are so set that all of the units are not thrown on the line at the same time.

INSTALLATION FACTORS

If the units are mounted outdoors or on the roof, a splash-proof motor is used. If indoors, the room is ventilated to provide adequate air change for the air cooled condensers. If this is the case the effect of an evaporative condenser can be accomplished and machine output stepped up by having the air being drawn into the room pass through a water saturated mat or treated excelsior.

The dry-bulb temperature of the air is reduced as much as 20° by such treatment and since the condensing is accomplished entirely by sensible heat transfer in air condensing, the machine capacity is thereby helped to that extent—roughly a 14% increase.

Having an adequate source of chilled water by this means, the next problem is its use and distribution. In order to keep the size of the water circulating pump and chilled water lines to a very minimum, 35° chilled water will be used. Conventional conditioning units will be used except for special coils capable of a coil-leaving air temperature of 40° and not more than 50° at the most.

SMALLER COOLING UNITS

These units are usually hung from the ceiling backstage and discharge air directly into ducts connected to them. As low temperature air will be used, a very small volume of air per ton of load capacity is possible.

This means smaller fans, smaller fan motors, and better yet, smaller duct sizes. The coils giving the greatest amount of surface per dollar of cost are those of the low pressure or auto radiator type. Their low cost permits a large amount of surface and, therefore, low leaving air temperatures.

Best type of duct to use is the new combination asbestos and magnesium, prefabricated duct obtainable in easy to handle lengths of the sizes most used. This type of material is a combination duct and duct insulation, thereby carrying low temperature air without sweating. It also has acoustical features so that high duct velocities are possible and the duct size may be further reduced for this reason. These sections are small and light and can be hung by one man from a ladder, no erecting scaffolding being necessary.

HOW SECTIONS ARE FITTED

Each section fits into the next so that one section at a time can be easily nailed to ceiling joists. Before being hung they are sprayed with paint to match the wall and ceiling decoration.

To get away from the uneven distribution of, say, three to five grilles, no grilles are used but instead a series of long, narrow slots are cut in the duct lengths before they are hung. These are cut in such manner as not to affect the duct rigidity and also to insure correct air volume, velocity, and direction.

Since low temperature air is used, correct velocity at the air outlet is important. The air leaves the slot at dewpoint temperature, below room dewpoint temperature, therefore, the velocity must be such as to diffuse and reevaporate any possible condensation occurring at the outlet.

Now, since low temperature air and, therefore, low volume of air is used, by a careful analysis of **"average"** outside wet-bulb temperature, air volume, and supply air temperature, all outside air can be used as the agent of convection, eliminating return air ductwork and meeting ventilation requirements at the same time.

By a careful application of this principle no more total energy need be used than would be used if a larger quantity of recirculated air were used as the agent of convection.

SENSITIVE TO OCCUPANCY

To make possible extreme savings the employment of a new thermostatic temperature control device actually capable of sensing the number of people in the conditioned area and regulating the air volume accordingly, should be used. This device, incidentally, can also be used to good advantage to control the volume of fresh air on conventional jobs according to the occupancy load. It is a simple "hook up" of Minneapolis or similar controls according to a patented method.

By clever application engineering such a well-functioning, low-cost installation can easily be accomplished. It presents an excellent market and type of business for the progressive engineer, not too absorbed in handbook data.

The judicious use of unit equipment all the way from duct material, through unit conditioners to unitary chilled water sources is essential to low cost, for it more than halves the labor cost—up to the present moment the greatest single item of cost in air conditioning.

Philco Launching Drive On 'Cool Wave' Unit

PHILADELPHIA—As part of an intensive campaign on Philco-York air conditioners planned for April, a series of sales engineering meetings will be held by Philco in each of the 48 states, reports Robert F. Herr, manager of the parts and service division.

In a nation-wide circuit between April 1 and May 10, Philco air conditioning engineers and sales heads will address some 200 meetings, to be sponsored by distributors in the various territories.

Objectives of the meetings are three-fold: to explain the purpose of the air conditioning unit, to illustrate where and how various models should be used, and to outline the approved sales approach. Installation methods will be demonstrated, but technical angles will not be stressed.

This direct promotional work in the field will be supplemented by a special edition of the Philco Service Magazine, twice its normal size and devoted exclusively to the subject of air conditioning. The publication goes to about 36,000 service men throughout the United States.

In addition, April will mark the launching of a nation-wide direct-mail campaign on air conditioning, in which more than 40,000 doctors, dentists, lawyers, business executives, and other professional men will be circularized. Philco's advertising campaign on air conditioning carries through five months, ending in July, E. B. Loveman, advertising manager, has announced.

Skillern's 'Show Store' Will Be Air Cooled

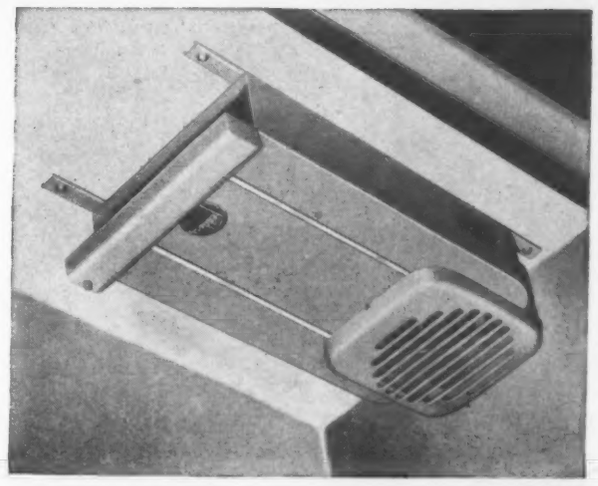
DALLAS, Tex.—Air conditioning will help make the new downtown store of the Skillern Drug Co. here the "showplace" of the chain, says Rae Skillern, president. Other features of the new store, which will cost an estimated $250,000, will includes a 75-foot soda fountain.

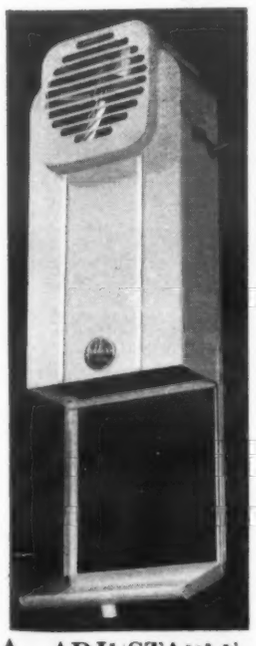
New Styling . . . New Colors
New FED-R-THERM CONTROL
You get EVERYTHING *with* FEDDERS *New*
1940 UNIT COOLERS

Fedders complete new 1940 line of Unit Coolers offers beautifully styled models for every commercial refrigeration and comfort cooling need. WRITE FOR YOUR COPY OF CATALOG R-404.

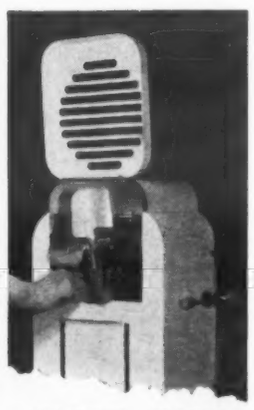
FED-R-KOOL UNITS
Finished in color with morocco texture and chrome and scarlet trim. For refrigerating foods, cold storage and comfort room cooling.

FED-R-CEILING UNITS
Ideal for Reach-In Coolers. Provides uniform conditions of fan circulated air.





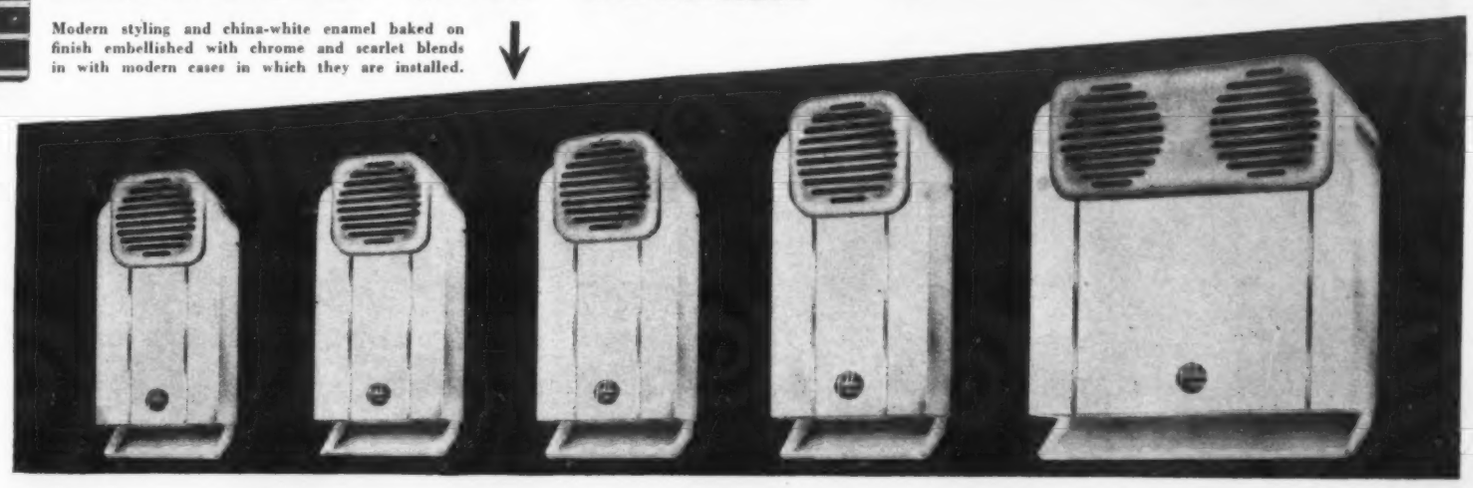
ADJUSTABLE DRAIN TROUGH
Directional angle and height of drain trough are ADJUSTABLE to give desired air flow and convenience of installation. Shown in maximum extended position.



QUICK, EASY ACCESSIBILITY
To oil motor or adjust Thermostatic Expansion Valve is made possible by simply raising grille,—a special Fedders convenience feature.

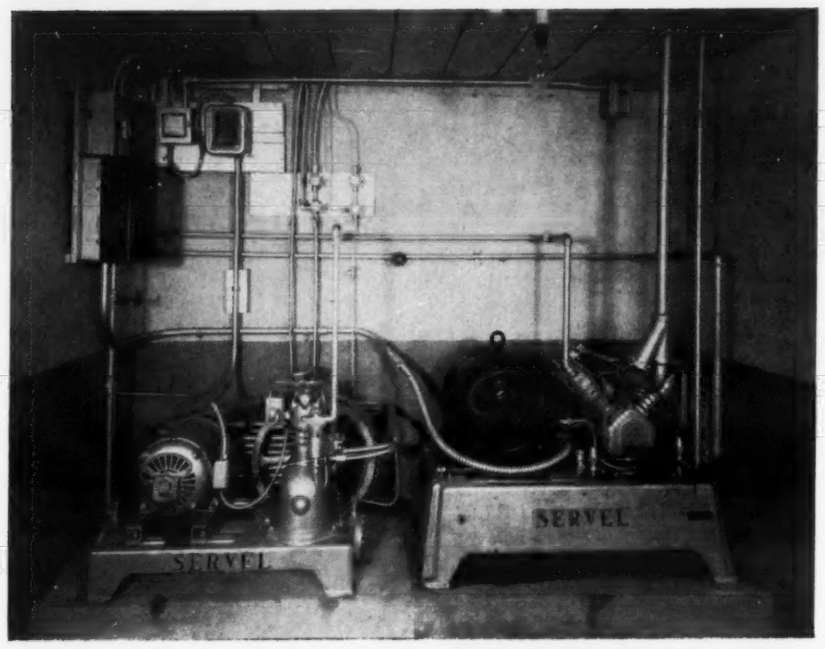
FED-R-THERM CONTROL
Adjustable settings control fan speed and automatically regulate air volume to compensate for changing conditions.

FED-R-LUXE UNIT COOLERS
Modern styling and china-white enamel baked on finish embellished with chrome and scarlet blends in with modern cases in which they are installed.

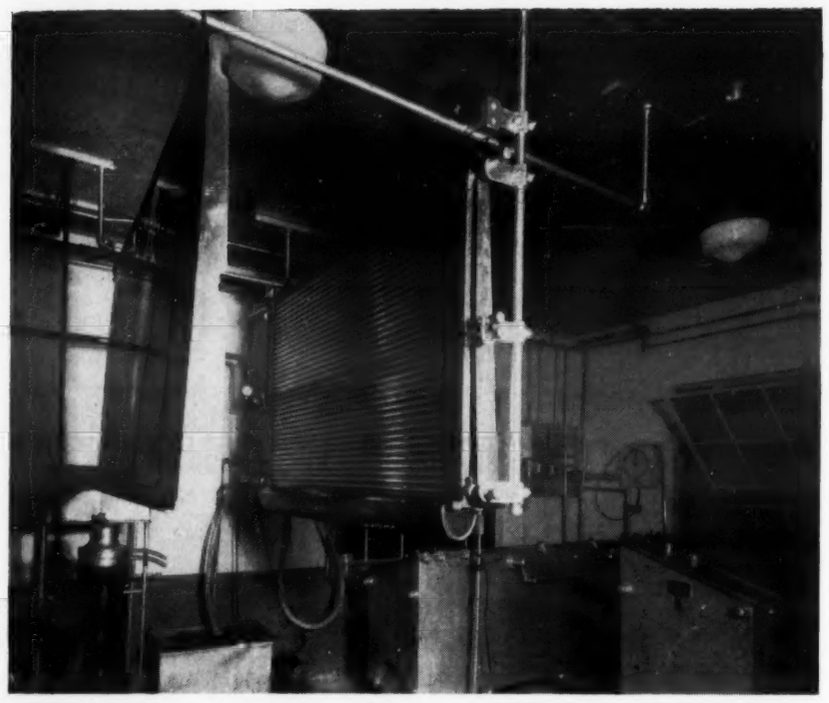


FEDDERS
MANUFACTURING COMPANY
BUFFALO, N. Y.
Atlanta Boston Chicago Cincinnati Dallas Los Angeles New York Philadelphia Detroit St. Louis Hamilton, Ont.

Progress In the Small Dairy



When its refrigerating requirements outgrew the capacity of the original 3-hp. compressor shown at left, the Flushing (Mich.) Cloverleaf Dairy added an 8-cylinder unit to serve its direct expansion aerator, and used the smaller machine to furnish cooling for its storage rooms.



Direct expansion aerator installed in the Cloverleaf Dairy plant has a cooling capacity of 400 gallons of milk per hour, using spring water to pre-cool to approximately 70° F. Increased interest in direct expansion equipment is being reported by commercial distributors.

Dairy Increases Use Of Refrigeration In Line With Growth

FLUSHING, Mich.—The trend toward larger and more efficient equipment for retailing dairies is aptly illustrated by the record of the Servel refrigeration equipment installed in the Flushing Cloverleaf Dairy here. The story of the expansion of this dairy is typical of organizations who have been careful to modernize and keep their equipment in step with customer needs.

According to Mr. Crowe of the Crowe Refrigeration Co., Lapeer, Mich., who installed the equipment, the dairy owner first started retailing raw milk from his farm in 1930. In the early stages he made two attempts to solve his refrigeration problem by the use of small air-cooled machines, neither of which proved adequate or efficient.

He finally turned to Mr. Crowe, and in 1934 purchased from Mr. Crowe a 3-hp. Servel model 300AW water-cooled machine unit, which operated a brine tank and storage cooler of the conventional type. This installation served the dairy owner satisfactorily for some five years, but his business gradually expanded until it was apparent that the 3-hp. unit could no longer carry the load.

TRIPLES PLANT SIZE

Again he asked Mr. Crowe to recommend suitable equipment for his expanded program, and in December of 1939 contracted for the complete revamping of his system, including the addition of a new WK-750AF 8-cylinder Servel machine having a capacity of almost three times as much as his earlier equipment. This new machine was connected directly to a modern direct expansion aerator so that the dairy now has ample capacity to cool 400 gallons of milk per hour using spring water to pre-cool to approximately 70° F.

Additional storage capacity for cooled milk was provided and the six-year-old 3-hp. machine was connected to forced convection units to handle this phase of the job alone.

Officials of the Servel commercial refrigeration department say that distributors in all sections of the country have been finding an increased interest in direct expansion cooling of liquids for which heavy-duty high back pressure units are particularly adaptable.

Brine or sweet water bath installations are still being installed on some of the smaller applications but when the daily cooling load runs 800 quarts or more, a good direct expansion job is as a rule most economical in first cost and operating cost, as well as providing exceptional capacity for future expansion.

For Refrigeration on the Road

New "Mobile Refrigeration" unit for trucks, complete with propane engine for power on the road, electric motor for house power, and Brunner compressor.

* * *

Dual-Drive Cooling Unit Developed For Trucks

NEW YORK CITY—Mobile Refrigeration, Inc., here has recently introduced a mobile dual-drive refrigeration unit for trucks, a special Brunner compressor being used as the refrigeration means.

On the road the compressor is driven by a small propane engine; in the garage by a 110/220-volt electric motor.

The condenser is open to the carburetor of the propane engine and a standard propane supply tank is connected to the suction side of the system. "Turning over" the engine operates the compressor, expelling the air and drawing in propane gas from the tank.

The compressor liquefies the gas in the condenser and fills the receiver tank to a predetermined level. This level is maintained automatically despite withdrawal of condenser gas by the engine.

It is claimed that because of this exact level control, the amount of liquid propane used as refrigerant, in this transitory cycle, can be kept to a minimum.

It is also said that the continuous purging of the condenser eliminates all sources of foreign head pressures, and that the level control means immunity against leakage.

Inventor of the Mobile refrigerating system is Dr. Peter Schlumbohm. The invention is covered by patents Nos. 1,935,749 and 2,195,387-8-9 which, as well as the name "Mobile Refrigeration," are owned by the Propane Development Corp. as U. S. licensee.

5-Year Average Shown By Young Co. Workers

RACINE, Wis.—The service record of its 357 employes is graphically presented in a bulletin published by Young Radiator Co., manufacturer of heating and cooling equipment. The bulletin is titled "Time Moves On at Young's."

The bulletin shows an average of five years of service for each present employe, effecting a total of 1,768 years of employment. Fifteen per cent of the employes have been with the company for more than 10 years, while another 30% have served it for periods of between five and 10 years.

Age survey of the entire group of workers reveals that 32% are over 40 years of age. The company has 15 employes who are over 60 years of age, five of whom are more than 65 years old, and two who are past 70 years of age.

Los Angeles Paper Plant Remodels 5-Year-Old Cooling System

LOS ANGELES—Remodeling of the five-year-old air conditioning system in the main offices of Zellerbach Paper Co.'s southern California branch here is being accomplished by Air Conditioning Co. of Southern California, General Electric distributor. Three of G-E's HD type conditioners generating 50 hp. and a 50-ton evaporative condenser are being used in the system.

Another installation involving remodeling work, this time on an existing heating system, has been made by the company in the Elks club in Pasadena. System installed here was of 25-hp. capacity.

HERE'S A HOT TIP
ON THE COLD TRUTH
BUSH SCORES AGAIN
New Defrosto Unit Cooler breaks all Sales Records
Never before has Bush had such a proposition to offer dealers. The Bush Recold Defrosto Unit Cooler has already proved itself as a readily acceptable cooler unit. The ease and rapidity of defrosting this unique cooler and the elimination of expensive defrosting apparatus is sure to please your customers and make more sales for you.
FOR LOW TEMPERATURE REFRIGERATION
COMPLETE DEFROSTING WITH TAP WATER
HARTFORD, CONN.
BRANCH FACTORY
610 N. OAKLEY BLVD. CHICAGO, ILL.
Bush Mfg. Co.

First Cost Not Only Factor In Multiple Hook-Up Installations

Correct Refrigeration Condition, Satisfactory Performance, and Reasonable Operating Expense Must Also Be Considered, Frigidaire Factory Man Warns Canadian Refrigeration Men

TORONTO, Ont., Can.—Multiple hook-ups on sales of commercial equipment should not be sold merely to reduce the first cost of the equipment, W. R. Warner of the Frigidaire factory staff cautioned service men meeting at the First Annual Canadian Refrigeration Convention and Exhibition here last week.

"On multiple hook-ups for the operation of one or more fixtures with the same or different temperatures by one condensing unit, correct refrigeration conditions, satisfactory operation of the equipment, and reasonable operating expense must be considered," Mr. Warner said.

"Multiple hook-ups, or 'multiplexing,' may require very careful engineering," he continued, "and some types should only be attempted by those with experience in this type of work. They are usually more difficult to adjust and to keep in adjustment than are unit installations. They require much more skill and time for the initial and routine service adjustment. They are subject to variations in operations due to changes in service loads or product load on a part of the system.

"Many of these difficulties in servicing multiplex installations can be minimized if certain rules are followed by the engineer when figuring the job. These rules are:

"1. Select compressor capacity to handle full load at lowest refrigerant temperature.

"2. Allow 40 to 50% of the load open to the crankcase unit at all times.

"3. Coldest evaporator should represent 40 to 50% of the load.

"4. In general, liquid flow must be controlled by low side float or thermostatic expansion valve.

"5. In general, the automatic expansion valve should not be used for multiplexing.

"6. Do not include a fixture that has a capacity that when used will rob the rest of the system.

"Every refrigeration problem involves the ability to deliver a required amount of refrigeration at a given point and the proper control of conditions in each refrigerated space," Mr. Warner continued. This requires that consideration be given to:

"a—Capacity to provide adequate refrigeration under conditions as required.

"b—Economy of operation.

"c—A minimum of maintenance and supervision.

"d—Ability to meet certain physical requirements other than refrigeration demands.

"After a survey and analysis is made of the refrigeration requirements and the physical location of the refrigeration or fixtures, it can be determined what type of installation is best suited for the job at hand.

"Full consideration must be given to the satisfactory operation, reasonable initial cost, and to cost of operation," Mr. Warner said.

"The customer or the engineer—or better both, acting together," he continued, "with a complete knowledge of all the problems involved, must make a decision and then work from that decision.

In discussing the use of heat interchangers, Mr. Warner pointed out that the heat interchanger gives a better control of conditions inside the evaporator.

"Most commercial jobs," he said, "are figured on the 'ragged edge' and all possible conditions are not taken into consideration. The use of the heat interchanger is helpful in increasing the efficiency of the system for the following reasons:

"1. Prevents slop-over of liquid refrigerant.

"2. Provides solid column of liquid at the expansion valve, thus insuring better operation.

"3. Refrigerating effect of suction gas is not lost to atmosphere.

"4. Decreases sweating of suction line."

Mr. Warner then briefly discussed the use of oil separators in the refrigerating system. "In ordinary commercial refrigeration application there is no need for the oil separator," he said. "Some types, particularly some large installations, cannot operate without the use of an oil separator, however. A few applications where oil separators will be of a distinct advantage are:

"1. Low temperature pipe coil evaporators (below 20° F.).

"2. Shell and tube water coolers with refrigerant in the shell.

"3. Apartment house multiple systems.

"4. Direct expansion ice cream freezers.

"5. Flooded low temperature evaporators."

Mr. Warner then pointed out possible disadvantages from a mixture of oil and refrigerant in the low side. He gave these disadvantages as follows:

1. The boiling point of the refrigerant is raised.

2. The density of the refrigerant is changed. This may cause erratic action of float ball in float controlled system.

3. Oil may accumulate in trapped portion of low side and seriously affect refrigeration efficiency; this lowering of efficiency may be caused by:

(a) Oil film on evaporator walls may reduce heat absorbing ability.

(b) An oil trapped suction line may react the same as a restricted suction line, and increased pressure drop will result, along with erratic control operation.

(c) A loss in lubricating qualities of the oil.

St. Louis Distributor Treats Tavern Keepers

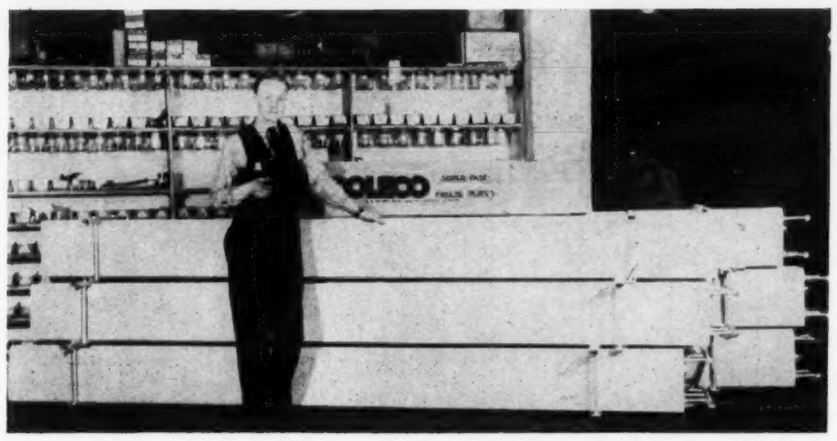
(Concluded from Page 1, Column 1)

traceable to the affair, plus hot leads promising more than double that business.

More than 150 tavern owners and bartenders attended the affair, which was held under the direction of Henry Weis, Jr., manager of the James & Co. commercial department. The shindig was complete with free refreshments, two floor shows, and even two orchestras.

To get maximum results and to keep expense at a minimum, James & Co. invited only tavern owners who comprised the best possible prospects, not only for the distributor but also for brewing companies, distillers, local booking agents for floor shows, specialty acts, and orchestras. Since these outside concerns had an interest in the guests, they could be persuaded to supply some of the entertainment and refreshments.

'Cat' Train Delivers Cold Plates To Wilderness Mining Camp



The equipment and the man who sold it.

* * *

TORONTO, Ont., Can.—Refrigeration finds its way into many strange places in the world, and selling a refrigerator to an Eskimo has ceased to be a gag. But selling refrigeration equipment to be installed in a gold mining camp where winter temperatures hover around 50° below zero is still quite a feat. W. J. Nye of Railway & Engineering Specialties, Toronto, recently turned this selling trick.

The equipment Mr. Nye sold was used to refrigerate a 50-ton meat box at the Berren's River gold mine in Manitoba. The equipment, consisting of six banks of "Doleco" cold plates, was purchased by the General Electric Co. in Toronto and installed by that company. Four banks of two plates, each plate 1 foot wide and 12 feet long, and two banks of three plates, each plate 12 inches wide and 44 inches long, were assembled and manifolded in the shop of Railway & Engineering Specialties Co.

That was the easy part of the job, according to Mr. Nye, because the next step was getting the banks of cold plates up to the gold mining camp, situated 300 miles north of La Pas, Manitoba. La Pas is known as a "railhead," and is the most northerly point reached by the railroad. From that point the refrigeration equipment had to be taken overland by means of a tractor train.

The trip is made by these tractor trains in the winter, because when the snows melt, the freight must be taken in by air—an expensive job.

The tractor train which carried the cold plates to the camp started out from the end of the railroad when the temperature ranged between 40° and 50° below zero. These trains are made up of from six to 10 sleighs pulled by a diesel tractor. The caravans are dubbed "cats" and the driver is known as the "skinner," probably a modernization of the old "muleskinner."

The tractor train carries a crew of six men who sleep in the caboose of the tractor, changing shifts every six hours. The living quarters are heated by the tractor's exhaust.

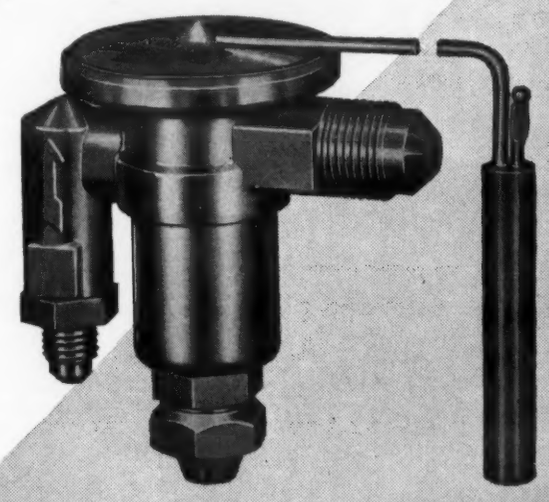
The tractor train travels at the speed of three miles per hour and never stops until it reaches its destination. It takes the shortest route possible, traveling overland through the deep snows in that section.

It's no cinch job taking supplies into this country, but the miners up there must have their meat refrigerated when the natural cold of the winter gives way to higher temperatures. The 50-ton meat box where the cold plates were installed keeps the meat at 10° below zero.

Carolina Dealership Is All In the Family

CLINTON, S. C.—All in the family is the new Westinghouse dealership opened here under the name of T. C. Bell & Sons. Mr. Bell himself and one son, C. C. Bell, do the selling; L. T. Bell, another son, handles the service.

Now BETTER THAN EVER the ALCO



Type "B" Thermo Valve

For Accurate Small Capacity Refrigerant Control

Introduced a year ago, the Alco Type "B" Thermo Valve made Alco's traditional efficiency and accuracy available in a low priced, small capacity valve. Today this valve has been further improved by placing the inlet connection in a vertical position to facilitate installation and accessibility.

Like all Alco Valves, the Type "B" gives you these extra features that save you money—yet *costs no more* than valves of ordinary construction:

- Atomic Hydrogen Welded Power Assembly—fewer power element failures
- Larger Filter Area — reduces chances of a clogged valve
- Larger Diaphragm Area — assures sensitive operation

You'll find the Alco Type "B" Thermo Valve the ideal low priced, small capacity refrigerant control—especially designed to provide the highest degree of evaporator efficiency for display cases, ice cream cabinets and other small installations. For further details and complete information — see your Alco jobber.

Remember

Until May 1st you can still obtain your free copy of Alco's new, helpful and informative "Handbook of Automatic Refrigerant Control." See your Alco jobber for details of this offer.

ALCO VALVE COMPANY
2620 Big Bend Blvd., St. Louis, Mo.

ALCO *Engineered Refrigerant Controls*
FOR HIGHEST EVAPORATOR EFFICIENCY

For DISPLAY CASES and WALK-IN COOLERS use SPORLAN

Type H Thermostatic Expansion Valves . . . Type 10 Solenoid Valves and Ammonia Thermostatic Expansion Valves *for Peak Performance*

Exhibit 'B' -- Distributor's Accountant's Cost Record Sheet

CONTRACT COST RECORD

SOLD TO John Doe — TERMS 20% Down — INVOICE No. 450 — DATE 5/18 — AMOUNT $196.47 — CONTRACT NUMBER 1200

LOCATION 25 Main St. Coldwater, Ohio — Balance 24 Months — 501 — 6/20 — $880.21 — DATE SIGNED 5/5 — DATE WANTED 6/30

TYPE OF INSTALLATION Restaurant — Notes — 6% — DATE APPROVED 5/18 — DATE COMPLETED 7/25

Box and Case Refrigeration — TOTAL BILLING 1076.68

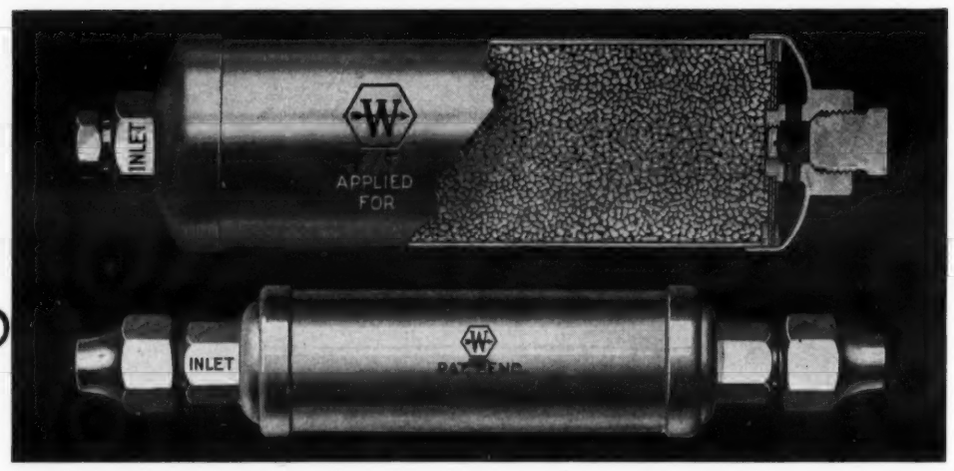
SALESMAN Brown — COMMISSION $117.88 — STANDARD PRICE 1076.68 — TOTAL SALES PRICE $1076.68

	SALES PRICE	$530.66	$ 212.81	$	$ 48.00	$15.47	$141.68	$128.06	$	
	ESTIMATED COST	$331.66	$ 133.01	$	$ 30.00	$ 9.67	$ 88.55	$128.06	$	$720.95
DATE	DESCRIPTION AND SOURCE OF CHARGE	ORDER OR INVOICE No.	YORK MATERIALS	OUTSIDE MATERIALS		SUB CONTRACTS	FREIGHT AND DRAYAGE	ERECTION	FINANCE CHG. SERVICE RES.	TOTAL COST
5/31	FINANCE CHARGE JNL. VO. No. 40	J-28							94 31	
5/31	SERVICE RESERVE JNL. VO. No. 41	J-28							33 75	
	Cost to date 5/31								128 06	128 06
6/12	Condensing Unit from Stock	S-305	231 18							
6/14	Copper Tubing Stock	S-318		31 50						
6/16	Freon Main Fittings Stock	S-325		32 18						
6/20	Fittings—Coldwater Hdwe. Co.	PJ-10		5 75						
6/21	Pipe—Drain Lines—Stock	S-329		4 50						
6/21	Coldwater Plbg. Supply C. I. Fig's	PJ-10		2 50						
6/27	Isolation Cork—Stock	S-329		4 00						
6/24	Coldwater Lumber Co.	PJ-10		2 90						
6/30	York—Coils and Stands	PJ-10	100 66							
6/30	Freight on Coils	CD-12					6 50			
6/30	Express	CD-12					1 45			
6/30	Drayage						80			
6/30	Labor for June	JV-47-P-30						90 37		
	Cost to date 6/30		331 84	83 33			8 75	90 37	128 06	632 38
7/2	Freon 12 — Stock	S-341		8 40						
7/5	Drayage	CD-14					2 00			
7/12	Brass Fittings from Stock	S-350		18 75						
7/14	Cast Iron Water Fittings	S-352		78						
7/18	Coldwater Electric Co.	PJ-14				30 00				
7/18	Coldwater Electric Co.—extra	PJ-14				6 50				
7/20	Coldwater Plbg. Supply Co.	PJ-15		3 72						
7/20	Detroit Valves	S-356		33 67						
7/25	Pipe and Fittings Returned			4 28	(Credit)					
7/30	Labor for July	JV-65-P-37						13 45		
	Total Cost 7/31/38		331 84	144 37		36 50	10 75	103 82	128 06	754 34

NEW

Three Weatherhead refrigeration parts with new features that answer long unfilled demands

SILICA GEL DRYERS



Here are two new Silica Gel dryers that are engineered to do the job. First they contain that chemically stable, powerful moisture adsorbent and acid remover—silica gel. Second, they are all metal construction with stainless steel screens—no felts or organic filters. The completed units are hydrogen welded into single brazed assemblies—no gaskets—no solder. With zero pressure drop there's a full flow of refrigerant at all times.

Two types are available; one—non-refillable (shown at top)—for permanent installations; the other adapted for recharging without worrying about solder or gaskets. Supplied in a capacity for every job, Weatherhead dryers also have the advantage of inter-changeable design, since proper unions make one dryer adaptable to various tube sizes.

RECEIVER TANKS

Examine one of these tanks and you'll quickly appreciate why they are outstanding from every point of view. Made from steel tubing, hydrogen welded into an integral assembly. All valves are brazed to tank bodies, which eliminates costly assembly and the difficulty of soldering-in threaded valves. This construction provides leak-proof units with long life. Weatherhead receivers are all tested with bone-dry air and sealed after testing—guaranteeing a clean, dry interior. Approved by Underwriters' Laboratories. These tanks are painted on the outside and shipped complete, ready for installation.

NEW

WRITE FOR COMPLETE DATA SHEETS

THE WEATHERHEAD COMPANY
Cleveland • Ohio

WEATHERHEAD
Refrigeration Valves and Fittings

Planned Profit For the Distributor Through Accounting Control Methods

York's Step-By-Step Course To Profits In the Field

Editor's Note: The following is excerpted from an article by D. M. Magor, controller, York Ice Machinery Corp., on "Distributor Accounting Procedure For Planned Profit Control," which has appeared in the bulletin of the National Association of Cost Accountants. The material is reprinted with the permission of the National Association of Cost Accountants, and will be published in two parts, the second instalment to appear in next week's issue.

The article describes an accounting system designed for the specific needs of the distributor, simple yet comprehensive enough to help him operate at a profitable level. The plan has attracted considerable attention among air conditioning and commercial refrigeration distributors, and the editors hope to present in some future issues additional information on how a distributor can apply the plan.

By D. M. Magor, Controller, York Ice Machinery Corp., York, Pa.

The need for a distributor accounting plan through which we recommend improvements in control of business management was felt several years ago and our incentive to develop such a program was increased by numerous requests from our distributor organization for recommendations of this type. A full year was spent in research and design of forms and methods in the construction of the distributor accounting manual which bears the title assigned to this article.

In general, the accounting plan was constructed for a small business faced with the problem of maintaining accurate costs on contract installations where a variety of equipment is furnished at an agreed price, the cost of which cannot always be determined precisely in advance.

Such small business operations frequently cannot afford elaborate records nor employ expensive accounting talent, for which reasons the design of the plan was kept as simple as commensurate with adequate information and the basic need for accuracy. Theoretical considerations were subordinated to practical operating conditions found in the average small business structure.

Distributor Accounting Manual

A successful distributor operation depends largely upon five factors:

a. Adequate territorial potential sales volume.

b. A balanced operating organization.

c. Adequate facilities and sufficient working capital.

d. Sound management decisions based upon full knowledge of current facts.

e. A planned profit objective.

Adequate records designed to supply prompt and properly related facts form the purpose of the accounting procedures outlined in the manual. The manual itself is a fabrikoid bound volume of 132 pages of descriptive matter with numerous inter-leaved samples of forms to be used for a variety of purposes.

Essentially it is a simple, logical description of a recommended accounting system together with many simplified suggestions concerning proper accounting methods which, while elementary to the advanced accountant, serve to make the installation and operation of the system quite simple for the average bookkeeper in a small establishment.

It begins with detailed explanations of forms and books of original entry leading up to the profit and loss statement, balance sheet, and manager's control sheet. The manual contains simple descriptions of such forms as invoices, purchase orders, expense reports, daily time reports, sales order forms, petty cash vouchers, journal vouchers, labor distribution, sales journals, purchase journal, cash journal, general journal, general ledger, departmental operating statements, accounts receivable ledger sheets, customer's statements, notes and accounts receivable records, employes' earning records, and many similar forms.

(Continued on Page 27, Column 1)

Exhibit 'A' -- Office Engineer's Estimate of a Job

OFFICE ESTIMATE AND COST SUMMARY

SOLD TO John Doe — CONTRACT No. 1200

ADDRESS 25 Main St. Coldwater, Ohio — ESTIMATE No.

TYPE OF INSTALLATION Restaurant Refrigeration — SALESMAN Brown

DATE SIGNED 5/15/38 — DATE APPROVED 5/18 — DATE WANTED 6/30 — DATE COMPLETED — ESTIMATOR Smith

WEIGHT	QUANTITY	YORK MATERIAL	SELLING PRICE	ESTIMATED COST	ACTUAL COST	ACTUAL PROFIT
475	1	York 25-W Condensing Unit 1 HP.	369 60	231 00		
60	1	T 82 D 52" Coil	54 40	34 00		
70	1	T 16 D 70" Coil	40 33	25 33		
30	2	T 51 D 40" Coil	16 33	10 33		
20	1	T 14 D 12" Coil	6 95	4 33		
60	1	T 16 D 35" Coil	18 67	11 67		
30		Support for Coils	24 00	15 00		
		TOTAL YORK MATERIAL	530 66	331 66		
		OTHER MATERIAL				
40		Freon 12	12 80	8 00		
40		Stand for Unit	7 47	4 67		
100	40 ft.	Freon Mains and Connections	122 67	76 67		
40	12 ft.	Water Drain Lines	16 00	10 00		
20	5	Detroit Thermostatic Exp. Valves	53 87	33 67		
		TOTAL OTHER MATERIAL	212 81	133 01		
		SUB-CONTRACTS				
		Electric Wiring (quotation)	48 00	30 00		
		TOTAL SUB-CONTRACTS	48 00	30 00		
		TOTAL MATERIAL	791 47	494 67		
		FREIGHT AND DRAYAGE	15 47	9 67		
		ERECTION	141 68	88 55		
		TOTAL MATERIAL and LABOR	948 62	592 89		
		SERVICE GUARANTEE	33 75	33 75		
		FINANCE CHARGE	94 31	94 31		
		TOTAL	1076 68	720 95		

F O B Customer Sidewalk — TERMS 20% Down

ROUTING Truck — 196.47 Balance

CURRENT CHARACTERISTICS 208V — 3 ph — 60¢ — 24 Monthly — STANDARD PRICE 1076.68

Notes—6% — SALESMAN'S COMMISSION 117.88

Exhibit 'C' -- Month-End Summary of Contracts

SUMMARY OF COMPLETED CONTRACTS

PERIOD *January 31st, 1939*

CONT. NO.	CONTRACT NAME	SELLING PRICE	ESTIMATED COST	ESTIMATED PROFIT	ACTUAL COST	ACTUAL PROFIT	% PROFIT TO SALES
1200	John Doe	1076.68	720.95	355.73	754.34	322.34	29.9
1202	O. K. Market	1200.00	829.00	371.00	814.25	385.75	32.1
1203	Strand Theatre	3100.00	2174.00	926.00	2057.14	1042.86	33.6
1204	City Ice Company	1500.00	1030.00	470.00	1110.15	389.85	26.0
1205	Elite Restaurant	800.00	489.00	311.00	467.26	332.74	41.6
1206	Main Street Drug Co.	401.49	244.00	157.49	268.16	133.33	33.2
1210	Vanity Beauty Shoppe	750.00	463.00	287.00	532.15	217.85	28.9
1211	First National Bank	2800.00	1931.00	861.00	2154.29	645.71	23.0
		11628.17	7880.95	3739.22	8157.74	3470.43	29.8

JOURNAL VOUCHER NO. _____

DR. CONTRACT BILLING ACCT. NO. 240 — CR. CONT. SALES ACCT. NO. 458

DR. COST OF SALES ACCT. NO. 558 — CR. CONT. IN PROGRESS NO. 156

THE REYNOLDS & REYNOLDS CO., DAYTON, O. — LITHO IN U.S.A.

Accounting Methods For the Distributor Of Commercial Units

(Continued from Page 26, Column 5)

For the purpose of this article and to confine descriptive matter within a reasonable length, we are illustrating two principal plans of control forming a part of the recommended accounting procedure to indicate the nature of the manual's contents. These relate to the control of contract installation costs and the use of the "Manager's Control Sheet and Performance Record." All figures and names used in these illustrations are purely hypothetical.

Control of Contract Installation Costs

Contracting to furnish and install machinery and equipment at an agreed sales price constitutes perhaps 70% of the total sales volume, from which it is evident that efficient control of the profit margin contained therein is a vital consideration to the welfare of the distributor.

Such sales are sent in by the salesmen in the form of signed contracts accompanied by sales estimates indicating the prices employed to support the contract totals. When a contract is received the customary investigation of credit is made by the credit department, while the office engineer prepares a check estimate to verify the salesman's selection of equipment as well as the quantities required to properly meet contract guarantees relating to temperature, humidity, and other important operating conditions.

Along with the check estimate the office engineer also prepares an independent cost estimate employing the forms illustrated here as "Exhibit A."

This cost estimate segregates the various types of equipment and material upon which separate group costs are to be maintained. The costs are estimated under these various classifications for posting to accounting records.

The notes in the lower right hand corner concerning standard prices and commissions paid to the salesmen are informative only and the latter is treated as a general expense item rather than a part of contract cost.

Through the use of a cut-out carbon a second copy is made. This second copy, listing no sales or cost figures, serves as a bill of material through which to assemble the equipment for delivery to the site of installation.

Records of Contract Costs

The distributor's accountant prepares and maintains a contract cost record sheet illustrated here as "Exhibit B." Pertinent statistical information is shown in the space provided across the top of the form.

Sales and estimated costs, segregated and grouped according to material classifications, are posted from "Exhibit A" beneath which appear vertical columns in which the actual costs are entered as incurred. Prompt posting of actual expenditures makes possible the control of contract costs as the installation progresses.

The cost figures shown across the body of the sheet at the end of each month are employed to check the general ledger controlling account and also for comparison with the estimated costs at the top of the form.

Actual cost in excess of the estimated figures can be investigated promptly to minimize losses.

At the end of each month all completed contracts are summarized as illustrated in "Exhibit C." If the percentage of gross profit to sales, 29.8%, shown in the lower right hand corner, is below the objective established by the distributor, the contracts causing the shortage can be located at once by reference to the individual contracts closed out in the body of the form.

Further reference to "Exhibit B" for that particular installation permits tracing the loss to the type of material involved. An especially important element in the cost of contracts is the item of installation labor which is perhaps the most difficult to control.

Obviously, elements of risk are inherent in such costs arising through special conditions encountered at the site of installation that may require a greater erection time than foreseen at the time of sale. Further provision is made for the overall control of installation labor through auxiliary records especially designed for this problem and fully described in the manual.

Emphasis is placed upon the vital importance of accurate contract costs for all distributor operations which, because of the percentage of sales volume involved, cannot be safely left to a loose method of control. A somewhat similar contract cost procedure has been employed for a number of years in our own direct branches giving the general principle a valuable test of time-tried procedure.

(To Be Continued)

Illinois Utility Ends 'Leased Departments'

ROCKFORD, Ill.—"Leased departments"—used for the sale of electric refrigerators on the first floor of the Central Illinois Electric & Gas Co. building here, will be discontinued May 1 of this year, according to A. P. Lewis, sales manager of the company.

Under the plan, which has been in operation for the past several years, three local stores paid a nominal rental for display space on the utility company showroom floor. Stores participating in the plan were Block & Kuhl Co. (Frigidaire), Hess Brothers (Norge), and Wilson Electric Co. (Westinghouse).

Reason given for discontinuance of the "miniature refrigerator stores" is that the utility must have more room for office space on the first floor of the building.

A. E. Anderson of the Block & Kuhl sales organization reports that the plan has been very satisfactory and that the three concerns "hate to give it up."

"Refrigerator business has been so good this year," Mr. Anderson asserts, "that we have back orders on a number of Frigidaire models and are unable to deliver all the refrigerators we have sold. This is especially true in the 6-ft. model sold for approximately $130.00."

30,000 Duluth Homes Without Refrigerators

DULUTH, Minn.—Electric refrigerator acceptance of 32%, with a market of 30,000 unsold homes, is reported by Minnesota Power & Light Co. on the basis of 1939 sales. Electric range use on the company's lines is 17%, and water heater use, 4%.

Quick-Frozen Products 25% of Food Sales?

NEW YORK CITY—The market for quick-frozen foods may eventually comprise 25% of all retail food sales and thus have a yearly sales value of two and one-half billion dollars per year, according to a recent survey of the industry by Hornblower & Weeks, members of the New York Stock Exchange.

The potential for frozen foods, which is based on the growth of all "packaged" foods in America, is compared with 1939 industry sales of approximately one hundred million dollars.

After reviewing the frozen food industry's development, including current production processes and distribution methods, covering individual companies, trade associations, research bureaus, and state and federal agencies, the survey reached the conclusion that "quick freezing and distribution of frozen food is a natural sequence in the evolution of the food industry."

Use of open-faced refrigerated sales cabinets and greater emphasis on consumer education will aid in expanding frozen food sales, according to the survey. As the food merchant cannot be depended upon to sell frozen foods to the exclusion of other merchandise, the public must be made conscious of frozen foods before entering the store.

National advertising inaugurated by Frosted Foods Sales Corp. (Birds Eye) early this year is expected to strengthen the position of the frosted foods industry in the public mind. The survey also points out that open-faced display cabinets, placed prominently in food stores, will be of material help in expanding frozen food sales.

Palmer Locker Service Is Extended To Mukwonago

MUKWONAGO, Wis.—Newest of the locker storage plants to be constructed by Palmer Frozen Foods, a division of Palmer Products, Inc., engineers and builders of refrigerated locker plants, is the ultra-modern feeder plant recently opened here. Mukwonago, a town of about 850 population, is located in the same county as Waukesha, where the first Palmer plant was erected last spring.

Of smooth solid masonry construction, this new plant, like its predecessor, is intended as a "showplace" of the locker business. There is room for 180 lockers in the plant, but so far only 132 have been installed.

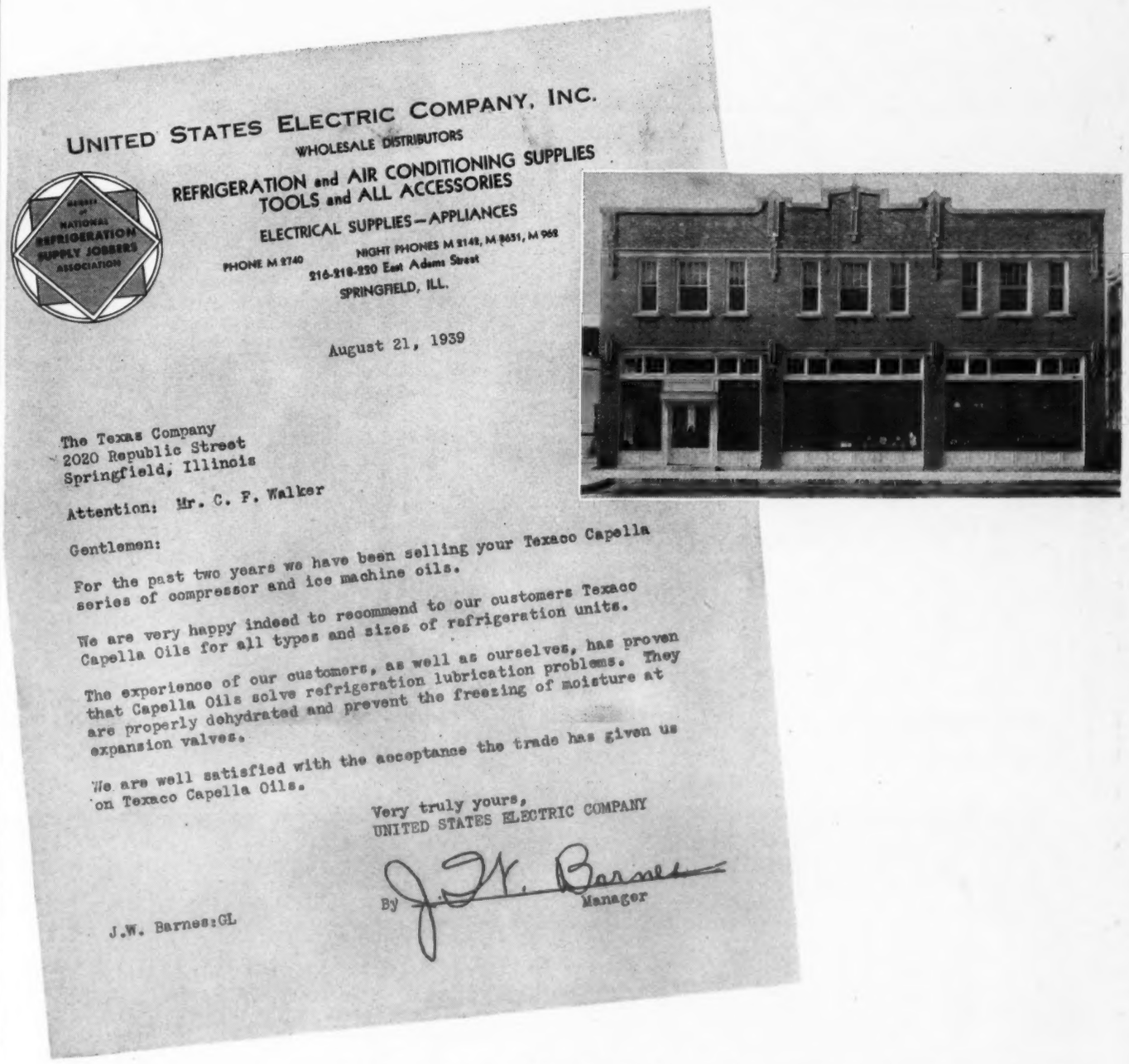
A Square Deal in Friendly Dimensions

Ansul Jobber service has two prime characteristics: It is square like the corners of this advertisement; and like this advertisement it extends itself in two directions — one, toward efficient, expert servicing of your needs; two, toward genuinely friendly and helpful attention to your business. We are proud of our Ansul Jobbers. You will be pleased to discover why.

ANSUL CHEMICAL COMPANY
MARINETTE • WISCONSIN

ANSUL
SULPHUR DIOXIDE
ICE-X
METHYL CHLORIDE

"VERY HAPPY INDEED"



UNITED STATES ELECTRIC COMPANY, INC.
WHOLESALE DISTRIBUTORS
REFRIGERATION and AIR CONDITIONING SUPPLIES
TOOLS and ALL ACCESSORIES
ELECTRICAL SUPPLIES—APPLIANCES
PHONE M 2740 — NIGHT PHONES M 2148, M 9651, M 962
216-218-220 East Adams Street
SPRINGFIELD, ILL.

August 21, 1939

The Texas Company
2020 Republic Street
Springfield, Illinois

Attention: Mr. C. F. Walker

Gentlemen:

For the past two years we have been selling your Texaco Capella series of compressor and ice machine oils.

We are very happy indeed to recommend to our customers Texaco Capella Oils for all types and sizes of refrigeration units.

The experience of our customers, as well as ourselves, has proven that Capella Oils solve refrigeration lubrication problems. They are properly dehydrated and prevent the freezing of moisture at expansion valves.

We are well satisfied with the acceptance the trade has given us on Texaco Capella Oils.

Very truly yours,
UNITED STATES ELECTRIC COMPANY
By J. W. Barnes Manager

J.W. Barnes:GL

NOTE the way this refrigeration jobber speaks of *Texaco Capella Oils,* the way these oils solve problems, the way he recommends them.

You, too, should be selling *Texaco Capella Oils.* For prompt service and deliveries, phone the nearest of more than 2300 warehousing points, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

Texaco Dealers invite you to tune in The Texaco Star Theatre—a full hour of all-star entertainment—Every Wednesday Night—Columbia Network—9:00 E.S.T., 8:00 C.S.T., 7:00 M.S.T., 6:00 P.S.T.

TEXACO Capella Oils

Tulsa Plant Uses Retail Meat Service As 'Decoy' For Prospective Locker Renters

Newspaper and Word-of-Mouth Advertising Boost Business of Former Refrigeration Engineer

TULSA, Okla.—Prominent, illustrated local newspaper advertisements, concentrated mainly on its retail meat service, are being used to build up the locker plant patronage of Tulsa Frozen Foods Co. In addition to stressing the quality of merchandise offered, these advertisements also place emphasis on the variety of services available.

Headed by a 27-year-old refrigeration engineer, John Sutcliffe Warren, Jr., this firm combines refrigerated locker storage rental and frozen food sales with wholesale and retail merchandising of meats, dairy products, and sundry food specialities.

Young Mr. Warren, who majored at Cornell in mechanical engineering in general and refrigeration in particular, joined the training school of York Ice Machine Co. immediately after his graduation from college. Upon completion of this training he was made sales engineer for York in the St. Louis territory.

During the three years which he spent on this job, he engineered refrigeration plants for a number of Tulsa's food and meat merchants, and through these contacts became imbued with the idea of merchandising frozen foods. Soon, with the cooperation of his father, a prominent Tulsa businessman, he turned this idea into an actuality by organizing Tulsa Frozen Foods.

The plant was located in a one-story brick business block on a main highway about one mile from the city's business center. The 60 x 75-foot space was converted into a combination locker plant, store, and office.

The refrigeration equipment consists of two 7½-hp. York ammonia compressors complete with condensers and receivers and powered by Wagner motors. The plant has a 4-ton capacity with 5,800 feet of 1¼-inch coils using 2,600 lbs. of ammonia.

The 850 white-enameled metal lockers were manufactured by Nebraska Appliance Co. in Lincoln. Six inches of Johns-Manville rock cork insulation was used. Locker room is kept at 10° F., quick-freeze room at —15° F.

The two compressors have sufficient capacity to take care of the plant's present requirements. They run intermittently 12 hours at a stretch under full load conditions.

Store part of the plant, located in the front of the building behind wide display windows facing on the street, is finished all in white. White porcelain refrigeration cabinets are used for the display of fresh meats as well as a complete line of Birds Eye quick frozen foods.

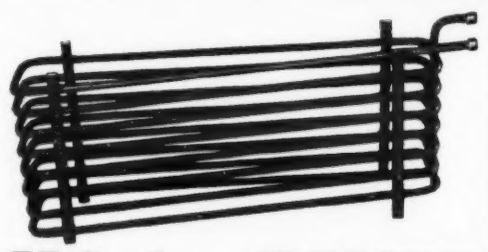
A deliberate effort at showiness was made when the plant was opened, for the express purpose of attracting public attention, Mr. Warren explained. This effort was successful, he said, but selling the advantages and economies of refrigerated locker storage proved quite another thing.

Progress along this line was slow and gradual, and for months less than 100 of the lockers were rented. But little by little the idea began to catch hold, and now there are some 350 locker renters, with this number increasing day by day.

Mr. Warren attributes a good share of this growth to word-of-mouth advertising, and to the local social prominence of his family. Many persons who first became patrons of his store merely because of family friendship have become ardent frozen food enthusiasts, he claims, and have spread the "gospel" with encouraging effect.

Locker room of Tulsa Frozen Foods Co. plant.

FIN COILS and PIPE COILS by REMPE



RELY on REMPE—a good thing to remember if you don't care to chance anything but 100% refrigerating performance.

REMPE CO., 340 N. Sacramento Blvd., CHICAGO

New Firm Formed To Build Locker Plant In Texas

SHERMAN, Tex.—Organization of the Grayson County Frozen Food & Locker Co., to sponsor erection and equipment here of a modern locker plant for family use, was announced by Nolan Jackson, of Dallas, who will head the organization.

Michigan Has 8,000 Lockers In 29 Plants, Survey Shows; 18 Plants Built Last Year

EAST LANSING, Mich.—A summary of the development of the locker storage industry in Michigan, based upon a survey completed through the aid of county agricultural agents and plant operators themselves, is presented in the February 1940 issue of the Quarterly Bulletin published by the Michigan Agricultural Experiment Station here. The summary was prepared by H. L. Seaton, of the Station's horticulture section.

"At present," this report states, "there are 29 refrigerated locker plants in operation in Michigan with a total locker capacity of 7,500 to 8,000 lockers. At least 18 of these plants were constructed during 1939. Most of them are concentrated in the central part of the Lower Peninsula, with the greatest number in the so-called 'Thumb' area.

"Size of the plants range from small plants with 25 lockers to one recent installation of 600 units. Of the 28 plants reporting, only two have fewer than 50 lockers, six fewer than 150, 22 with from 200 to 500 units, and one plant with 600 storage lockers. Average number of lockers for the 28 plants is 272 units.

"Rental charges for individual lockers vary widely. In some of the older plants where small lockers of wood and hardware cloth construction prevail, annual rentals range from $5 to $8 per locker. The newer plants equipped with sanitary steel lockers charge from $10 to $15 per year, depending on the size and location of the locker.

"Most of the newer plants reported that the average size locker was rented for $1 per month, or $10 to $12 per year. In general, the lower locker of a tier is the drawer type and rents for from $1 to $3 a year more than the standard type. Average annual rental for the 25 plants reporting was $11.75.

"Twenty-seven of the 29 plants are owned and operated by independent operators or corporations, while two are owned and operated as cooperatives. Only 10 of the plants are operated as separate businesses, while 17 are operated as sidelines to ice manufacturing plants, ice cream plants and stores, apple storages, dairies, meat markets, and grocery stores.

"Smallest number of lockers from the group of plants operated as separate units was 200, and the largest 600 units, with an average of 345 lockers for the group. Of the 17 plants operated as sidelines, the smallest installation was 24 units, while the largest was 380, with the average for this group at 215 units.

"All companies reported that they provided chill room services for the chilling and aging of meats, and all were equipped with sharp freezing rooms and storage lockers.

Twenty-four of the plants cut and wrap meat for their patrons and 23 grind meat and sausage. Fifteen are equipped to render lard and 16 smoke and cure hams and bacon. Seventeen provide butcher service for their patrons. Some of these plants maintain slaughter houses, but most of them send the butcher to the patron's farm to perform this service.

"All but one of the 28 plants indicated that they do or intend to quick freeze fruits and vegetables. Whether they are equipped to blanch and package these products was not indicated.

"Most of the plants keep a supply of wrapping papers and containers for resale to patrons. Seventeen of the 25 plants reporting stated that they resold commercially frozen products to their customers."

Proper Preparation of Fruits and Vegetables For Quick Freezing Is Outlined By Tressler

URBANA, Ill.—Some brief but helpful tips on the preparation of fresh foods for quick freezing and locker storage were offered by Donald K. Tressler of the New York Agricultural Experiment Station, Geneva, N. Y., when the University of Illinois held its second locker storage conference here.

"Preparation of fruits for freezing is simpler than preparation for canning," he pointed out, "because there is no need to sterilize products to be frozen.

"Fruits are simply prepared as if for the table, mixed with sugar or heavy syrup, and then quickly frozen after packaging. Vegetables are prepared as if for the table, scalded, cooled, packaged, and frozen.

"All vegetables are handled in a similar manner. For instance, in the preparation of peas, the peas should be chosen in the optimum stage of maturity and of quality, not starchy. The gathered peas should be shelled and washed in water.

"Then they should be completely scalded, holding them in a collander or basket and agitating them in the hot water so they will be heated uniformly. After scalding one minute, the peas should be immersed in the coldest water available, using 2 gallons of water to a pound of peas.

"The water should be cold enough to rapidly cool the peas to 60° F., after which they should be drained and placed in waterproof paraffined or cellophane containers and promptly frozen. If they cannot be frozen immediately, they should be kept as cold as possible until they are frozen.

"Freezing should be carried out before an electric fan to facilitate rapid freezing. Ordinary pint packages of peas will freeze solidly in three hours or less before an electric fan in a room at 0° F.

"The general process for other vegetables is much the same. Steam-blanched corn and asparagus are somewhat superior to the water-blanched product, although water blanching is quite satisfactory. Steam blanching may be carried out in a pressure cooker.

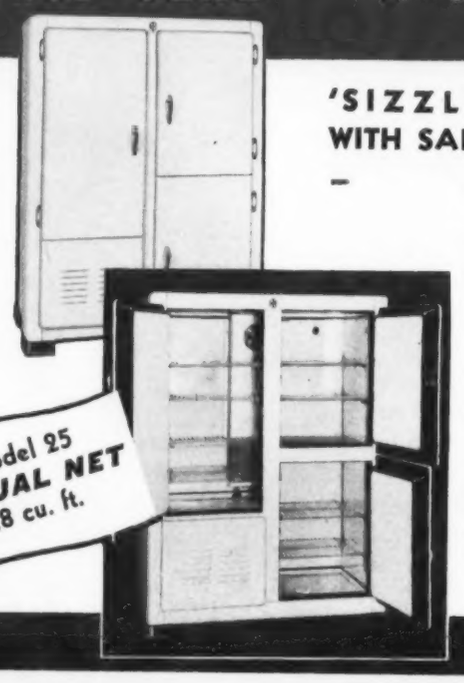
"Fruits, with the exception of apples, cannot be scalded without giving a cooked flavor, and are usually stored with sugar or syrup. Strawberries are usually preserved more than any other fruit, so a variety of methods of the preparation will be given.

"Whole strawberries in syrup: Use fully ripe, but not mushy, varieties such as the Marshall, Redheart, Senator Dunlap, Missionary, Klondike, or Blakemore, depending on the locality where they are grown. They are capped, soaked in cold water, and then placed in cartons with 65% sugar syrup, filling the cartons within ½ inch of the top. They are then sealed and quickly frozen. The syrup should be below 70° F. when used.

"Whole berries with sugar: Stir the berries with one-third their weight of sugar until most of the sugar is dissolved in the juice. Place in cartons and freeze.

"Sliced or chopped berries with sugar: Mix the berry pieces with one-fourth their weight in sugar without crushing. Then package and freeze. These best retain their flavor."

THIS YEAR -- IT'S *MIDWEST'S* MODELS 25 AND 30



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These two "profit makers" are the leading models in Midwest's famous line of reach-ins. Full 28 and 35 cubic feet NET capacity. Exclusive Midwest Steelwood construction, heavily insulated. Triple coat porcelain interiors; Bonderized high-bake DULUX exterior finish. Adjustable shelves. Model 25 has space for compressor.

VALUABLE MIDWEST FRANCHISES AVAILABLE ON FULL LINE OF REACH-INS, DISPLAY CASES, WALK-IN COOLERS.

Write for brand new 1940 catalog and attractive distributor's prices.

MIDWEST MFG. COMPANY

GALESBURG ILLINOIS

Export Sales Division—330 S. Wells, Chicago
Cable Address—Midwest, Chicago.

Bulletin Boosts Use Of Concrete In Locker Plant Construction

CHICAGO—The how and why of concrete construction for refrigerated locker storage plants is outlined in detail in a bulletin just issued by the Portland Cement Association. It is entitled "Construction Details For Concrete Cold Storage Locker Plants."

Starting off with a very elementary but complete description of the various rooms in the average locker plant, and the processes to which each is devoted, the bulletin gives the refrigeration and insulation requirements of each room.

Remainder of the bulletin lists the advantages of concrete locker plants, and describes in detail the methods of constructing such plants, including the mixing, curing, and finishing of the concrete. In conclusion, some information on construction and operating costs is offered.

The bulletin is profusely illustrated with detailed diagrams of various sizes of plants, and also with photographs and drawings of plant interiors and exteriors.

117 Families Can't Wait To Rent Ala. Lockers

FORT DEPOSIT, Ala.—A 150-locker cold storage plant is under construction here by J. M. Black, Jr. According to County Agent J. W. Mathews of Lowndes County, 117 lockers already have been rented.

In addition to the regular processing room, chill room, quick-freeze room, and locker room, the plant will have 90 salt meat bins for the convenience of patrons who wish to slaughter and cure their meat at all seasons of the year. The plant will be managed by Noel Cates.

Commissioner Haygood Patterson and Harry Deering of the engineering department of the Alabama Extension Service cooperated in making plans for the plant.

Construction Started on $15,000 Plant In Texas

MEXIA, Tex. — Construction will start in late April on a $15,000 refrigerated food locker plant here. Three hundred lockers will be installed, and refrigeration capacity will be provided for additional lockers if needed, according to Tom Phillips, owner.

Wisconsin Gets Another

BOYCEVILLE, Wis.—F. L. Peterson is installing a 200-locker storage plant in his market here.

Unitized Locker System Marketed By Iceberg

A completely unitized, self-contained, and portable system of quick freezing and cold storage lockers has been placed on the market by Iceberg Refrigerated Locker Systems, Inc., with offices at 6541 Woodlawn Ave., Chicago, and is now being advertised and promoted by that company as "the first really workable plan for a normal temperature locker room."

Each Iceberg locker unit is composed of six sections, each in turn made up of two tiers of drawer-type lockers four high and back to back. Each unit of 48 drawers has its own refrigeration unit consisting of a compressor, coils, and blowers housed in a section of the same size as the locker sections. And each complete unit is protected by 6 inches of insulation.

Drawer sections and the refrigeration section lock together to form a unit 7 feet wide, 7 feet high, and 18 feet long.

CHILL ROOMS, TOO

Sectional and portable chill rooms and smoke rooms which, like the locker sections themselves, may be installed in any type of building also are available.

Each locker unit is refrigerated by a current of cold air which originates in the refrigeration section and is forced over the top of the locker drawers, down both ends and sides, and back under the bottom.

The system is designed to maintain an interior cabinet temperature of —10° F. with an outside temperature of 90° F. This temperature is maintained even with a full capacity load of 360 pounds per drawer on an operating time of 16 hours out of 24 hours during the summer.

Each unit is controlled thermostatically for a 3° range, so that when the temperature rises to —7° F. the compressor cuts in. If it fails to do so, a bell alarm rings to warn the operator.

In locations where one to four units are used, the company advises taking one stack of four lockers and paneling them off from the rest of the cabinet, and opening a sliding baffle in the top duct, thus allowing a large flow of cold air into this paneled section and using this section for a sharp freezer. Where the plant has more than 250 lockers, purchase of a two-section unit is for use as a sharp freezer is advised.

The compressor unit is powered by a 1½-hp. motor.

Advantages claimed by the company for its locker system include the following: it may be installed in any type of building without the necessity of altering or insulating; it is entirely flexible, and may be added to at will; it is 100% salvagable, only a screw driver and a monkey wrench being necessary to dismantle it; it makes possible a normal temperature locker room with every locker immediately accessible.

Lindsay Structure Materials Now Applied To Locker Storages

First Installation Made In Small Town Market

CHICAGO—A new type of frozen food locker set-up designed especially to be small enough and flexible enough to meet the needs of the average merchant in the small rural community has been designed of Lindsay Structure materials by W. E. Guest & Co., builder of cold storage plants.

Lindsay Structure, manufactured by Dry-Zero Corp. here, is a new type of patented light steel construction composed of sheet metal panels held in rigid tension. These materials are available in 4,500 sizes to within ½ inch of any desired dimension.

As a result, the Guest firm is able to offer 28 standard sizes of this new type of locker "plant." These layouts vary in size and shape so as to fit almost any available space. The smallest unit contains 50 lockers, the largest will hold 250 lockers.

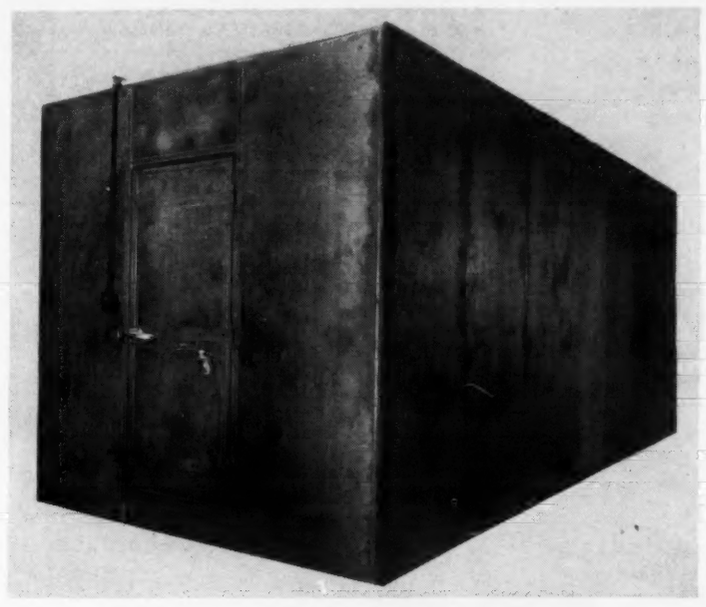
In case the store in which the "plant" is to be installed has no freezing room, some models can be furnished with a chilling compartment. The amount of display room in each plant can be adjusted to satisfy the requirements of each individual operator.

ALL SIZES AND SHAPES

In addition to being available in practically all sizes and shapes, Lindsay Structure materials can be erected in as short a time as one week, it is claimed. These materials are rust and fire resistant. The assembled structure is said to be moisture-tight.

All materials in the Lindsay Structure are marked to facilitate erection. Parts can be put together with a simple socket wrench, without the need of riveting or welding. No cutting or fabrication is necessary.

First installation of a plant of this type has just been completed in the Original Meat Market, Gilman, Ill.



Exterior of Lindsay Structure locker unit.

The Lindsay Structure housing installed in this shop is 20 feet long, 9 feet wide, and 9 feet high. Walls, roof, and floor are completely lined with 6 inches of Dry-Zero insulation.

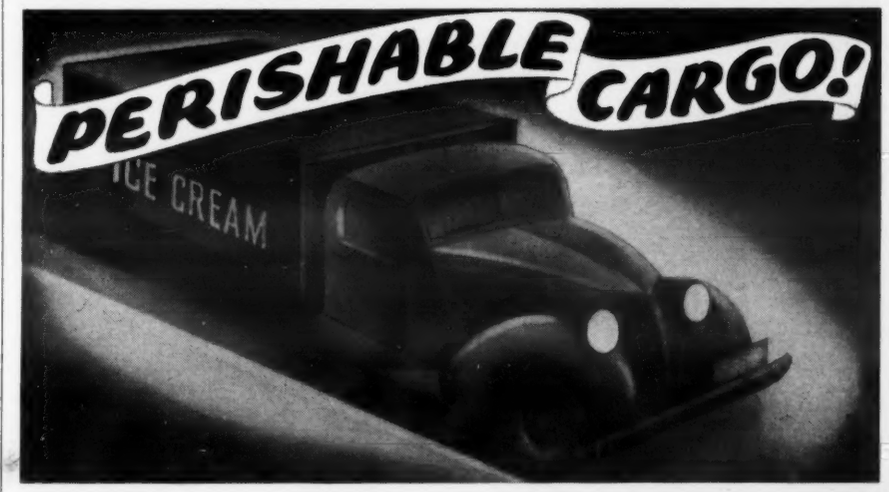
Inside this structure are 100 wooden lockers, four display cases or lockers, and a sharp freezing compartment. The latter is kept at a temperature of from 0 to —10° F. The locker room itself is kept at 10° F. The store's regular walk-in cooler is used for a chill room.

Lockers are made of plywood, and measure 20 inches wide, 15 inches high, and 30 inches deep. They are stacked five high, with the bottom units being of the drawer type. Lockers are arranged on both sides of an aisle which runs down the center of the structure. They rent for $10 per year.

S. C. Dealer Stages Drawing At Theater

MARION, S. C.—The J. Edward Bryant Coal Co., local Westinghouse dealer, garnered considerable publicity recently by giving away a 6-cu. ft. Westinghouse refrigerator to the winner of a drawing held at the local theater.

For two weeks prior to the drawing, the theater ran a 50-minute Westinghouse promotional film in addition to its regular feature at every show. During this period the refrigerator to be given away was prominently displayed in the theater lobby. Then on the day of the drawing, each person attending the show was given a ticket for the drawing. Holder of the lucky ticket got the refrigerator.



VIRGINIA'S ON THE JOB FOR THE ICE CREAM INDUSTRY

Proper protection of ice cream in transit requires high-grade installations that will take plenty of punishment and still give long, economical service.

To protect this expensive investment in equipment, these units should be charged with V-METH-L, Virginia's PURE, DRY Methyl Chloride.

Virginia outlets will give you the quick, dependable service you need for STEADY, profitable fleet operation.

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FOR PRESSURE CONTROL UP TO 1 H.P.A.C.

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CANADIAN PLANT: TORONTO. EUROPEAN PLANT: LONDON. COMPANY OWNED BRANCHES IN 49 OTHER CITIES

REFRIGERATION Control

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Lipman AUTOMATIC REFRIGERATION GR AIR CONDITIONING

DEALERS: Get the facts about the GR-Lipman line of complete, "packaged" Air Conditioning Equipment . . . portable, self-contained units for year-round air filtration and ventilation; summer cooling and dehumidification. An unlimited market; an outstanding line. Write:

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● Class 9110 Regulators provide positive wiping action to eliminate contact sticking and welding, thus assuring positive cut-out.

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FOR
ICE CREAM CABINETS
use SPORLAN
Type HZ Thermostatic Expansion Valves...especially designed to give *Peak Performance* on all low temperature applications

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REPLACEMENT DOOR GASKETS
"Fit Like the Paper on the Wall"

● That's because each Miller Replacement Gasket is made from the same die which produced the original gasket for the refrigerator manufacturer. There's no variance in quality, either. Here again the "original" formula for age and grease-resisting compounds is employed to give you the finest rubber door gaskets money can buy.

The Miller line is complete, offering 28 gasket types with which you can service 80% of all refrigerators regardless of make. If you want to put door gasket replacements on a profitable, business-like basis, write for free sample card and name of nearest Miller jobber.

MILLER RUBBER CO., INC. • AKRON, OHIO
"Engineers in Rubber"

DEALERS! DON'T OVERLOOK THIS SENSATIONAL PROFIT OPPORTUNITY

Get your share of the refrigerated locker plant business now—with A-S-E Froz-n-Food Lockers. They've been the source of highly profitable income for dealers in many parts of the country. They've been proved best for *every* refrigerated locker plant requirement—easy to install — with no unprofitable servicing—steady repeat orders. Ask us how to add this money-making line. Write us today for all the facts.

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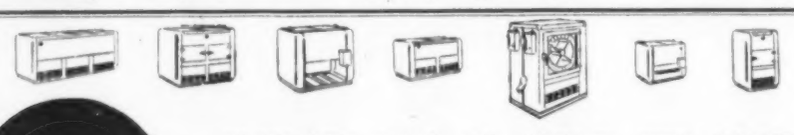

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Electric and icer models—wet and dry type. Regular and coin vending. All sizes. Write for catalog of complete 1940 line. Pelco has what you want.

PORTABLE ELEVATOR MFG. CO., BLOOMINGTON, ILL.

Nema World Shipments of Commercial Refrigeration For December, January and February

The following reports of commercial refrigerating equipment sales for December, 1939, and January and February, 1940 was made to the Commercial Refrigeration Section of the National Electrical Manufacturers Association (Nema) by the following 16 companies: Baker Ice Machine Co., Inc., Brunner Mfg. Co., Carrier Corp., Crosley Corp., Frigidaire Div. General Motors Corp., General Electric Co., Gibson Electric Refrigerator Co., Kelvinator Div. Nash-Kelvinator Corp., Merchant & Evans Co., Norge Div. Borg-Warner Corp., Servel, Inc., Uniflow Mfg. Co., Universal Cooler Corp., Vilter Mfg. Co., Westinghouse Electric & Mfg. Co., and York Ice Machinery Corp.

SALES FOR DECEMBER, 1939	Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value	Total World Quantity	Total World Value
1. Bottle Water Coolers—Complete	132	$ 11,335	2	$ 138	12	$ 762	146	$ 12,235
2. Pressure Water Coolers—Complete	581	61,292	8	683	44	4,531	633	66,506
3. Water Coolers—Low Side Only	67	6,241	2	97	1	54	70	6,392
4. Ice Cream Cabinets—Complete	2,100	321,558	51	8,645	24	4,773	2,175	334,976
5. Ice Cream Holding Cabinets Only (Remote)	151	21,171	5	624	....	....	156	21,795
6. Bottle Beverage Coolers—Complete	1,100	92,746	14	1,293	46	4,959	1,160	98,998
7. Beverage Coolers (No High Sides)	4*	*1,275**	2	182	*5**	*362**	1	*1,455*
8. Milk Coolers—Complete	8	2,019	....	....	4	1,440	12	3,459
9. Milk Cooling Cabinets (No High Sides)	....	....	....	....	....	....	....	....
10. Commercial Evaporators—Not Reported Above (Including Cold Diffusers, Brine, and Other Spray Evaporators, Etc.)	1,168	89,465	128	3,406	312	14,930	1,608	107,801
11. Condensing Units Less Than ⅓ Hp	4,770	238,379	36	1,835	399	19,295	5,205	259,509
12. Condensing Units—⅓ Hp	1,559	98,174	23	1,532	267	17,469	1,849	117,175
13. Condensing Units—½ Hp	764	68,290	28	2,516	96	7,958	888	78,764
14. Condensing Units—¾ Hp	517	59,230	14	1,592	71	7,244	602	68,066
15. Condensing Units—1 Hp	278	38,956	12	1,877	48	6,811	338	47,644
16. Condensing Units—1½ Hp	192	35,151	1	175	49	8,281	242	43,607
17. Condensing Units—2 Hp	97	21,710	....	....	28	5,638	125	27,348
18. Condensing Units—3 Hp	77	20,191	....	....	10	2,528	87	22,719
19. Condensing Units—5 Hp	30	11,022	....	....	2	714	32	11,736
20. Condensing Units—7½ Hp	101	28,537	....	....	1	430	102	28,967
21. Condensing Units—10 Hp	12	8,101	....	....	1	681	13	8,782
22. Condensing Units—15 Hp	2	2,001	....	....	1	716	3	2,717
23. Condensing Units—20 Hp	2	2,921	....	....	1	1,000	3	3,921
24. Condensing Units—25 Hp	....	....	....	....	....	....	....	....
25. Condensing Units—30 Hp	2	4,674	....	....	....	....	2	4,674
26. Condensing Units—40 Hp	13	18,449	....	....	....	....	13	18,449
27. Condensing Units—50 Hp	....	....	....	....	....	....	....	....
28. Total—All Condensing Units (11 to 27)	8,416	655,786	114	9,527	974	78,765	9,504	744,078
29a. Condensers—Sold Separately Shell & Coil or Shell & Tube	3	278	....	....	3	730	6	1,008
29b. Evaporative Type	11	3,395	31	1,640	6	1,337	48	6,372
30. Total—All Commercial Refrigeration	....	$1,264,011	....	$26,235	....	$111,919	....	$1,402,165

SALES FOR JANUARY, 1940	Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value	Total World Quantity	Total World Value
1. Bottle Water Coolers—Complete	95	$ 6,097	2	$ 138	5	$ 396	102	$ 6,631
2. Pressure Water Coolers—Complete	797	82,599	12	1,023	65	7,020	874	90,642
3. Water Coolers—Low Side Only	43	5,018	1	41	1*	1*	45	5,060
4. Ice Cream Cabinets—Complete	1,643	266,619	13	1,814	50	7,873	1,706	276,306
5. Ice Cream Holding Cabinets Only (Remote)	141	20,884	2	269	....	....	143	21,153
6. Bottle Beverage Coolers—Complete	2,126	187,698	9	785	36	4,612	2,171	193,095
7. Beverage Coolers (No High Sides)	35	2,572	....	....	2	149	37	2,721
8. Milk Coolers—Complete	3	484	....	....	2	398	5	882
9. Milk Cooling Cabinets (No High Sides)	....	....	....	....	....	....	....	....
10. Commercial Evaporators—Not Reported Above (Including Cold Diffusers, Brine, and Other Spray Evaporators, Etc.)	1,302	51,440	104	3,857	301	19,229	1,707	74,526
11. Condensing Units Less Than ⅓ Hp	1,538	68,614	26	1,136	472	20,854	2,036	90,604
12. Condensing Units—⅓ Hp	1,550	86,800	15	991	85	5,250	1,650	93,041
13. Condensing Units—½ Hp	757	65,129	20	1,778	74	7,911	851	74,818
14. Condensing Units—¾ Hp	455	51,178	11	1,167	19	2,017	485	54,362
15. Condensing Units—1 Hp	354	49,545	3	388	39	4,950	396	54,883
16. Condensing Units—1½ Hp	143	24,513	6	932	19	3,399	168	28,844
17. Condensing Units—2 Hp	92	19,685	3	654	11	1,958	106	22,297
18. Condensing Units—3 Hp	59	16,115	....	....	16	3,387	75	19,502
19. Condensing Units—5 Hp	30	11,650	....	....	6	2,470	36	14,120
20. Condensing Units—7½ Hp	6	3,558	....	....	2	1,404	8	4,962
21. Condensing Units—10 Hp	6	3,601	....	....	3	1,958	9	5,559
22. Condensing Units—15 Hp	6	6,642	....	....	1	1,544	7	8,186
23. Condensing Units—20 Hp	2	3,101	....	....	....	....	2	3,101
24. Condensing Units—25 Hp	....	....	....	....	....	....	....	....
25. Condensing Units—30 Hp	3	6,299	....	....	....	....	3	6,299
26. Condensing Units—40 Hp	1	2,034	....	....	....	....	1	2,034
27. Condensing Units—50 Hp	....	....	....	....	....	....	....	....
28. Total—All Condensing Units (11 to 27)	5,002	418,464	84	7,046	747	57,102	5,833	482,612
29a. Condensers—Sold Separately Shell & Coil or Shell & Tube	1	315	....	....	....	....	1	315
29b. Evaporative Type	2	260	....	....	....	....	2	260
30. Total—All Commercial Refrigeration	....	$1,042,450	....	$14,973	....	$96,780	....	$1,154,203

SALES FOR FEBRUARY, 1940	Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value	Total World Quantity	Total World Value
1. Bottle Water Coolers—Complete	151	$ 10,501	....	....	9	$ 634	160	$ 11,135
2. Pressure Water Coolers—Complete	873	87,191	3	$ 259	122	11,981	998	99,431
3. Water Coolers—Low Side Only	33	5,524	....	....	4	245	37	5,769
4. Ice Cream Cabinets—Complete	1,717	278,663	67	9,511	86	11,551	1,870	299,725
5. Ice Cream Holding Cabinets Only (Remote)	1,699	183,482	1	139	....	....	1,700	183,621
6. Bottle Beverage Coolers—Complete	1,503	115,843	966	83,450	31	3,565	2,500	202,858
7. Beverage Coolers (No High Sides)	58	6,057	....	....	3	174	61	6,231
8. Milk Coolers—Complete	10	2,559	....	....	....	....	10	2,559
9. Milk Cooling Cabinets (No High Sides)	....	....	....	....	....	....	....	....
10. Commercial Evaporators—Not Reported Above (Including Cold Diffusers, Brine, and Other Spray Evaporators, Etc.)	1,542	70,841	133	4,182	258	15,052	1,933	90,075
11. Condensing Units Less Than ⅓ Hp	1,953	79,738	51	2,226	322	16,494	2,326	98,458
12. Condensing Units—⅓ Hp	1,896	107,099	29	1,742	143	9,526	2,068	118,367
13. Condensing Units—½ Hp	1,027	92,198	21	1,829	126	11,442	1,174	105,469
14. Condensing Units—¾ Hp	610	68,602	15	1,690	39	4,380	664	74,672
15. Condensing Units—1 Hp	404	55,910	6	878	29	4,134	439	60,922
16. Condensing Units—1½ Hp	193	34,462	2	355	26	4,519	221	39,336
17. Condensing Units—2 Hp	107	21,580	1	166	18	3,728	126	25,474
18. Condensing Units—3 Hp	56	15,503	1	208	13	2,625	70	18,336
19. Condensing Units—5 Hp	28	10,808	2	726	4	1,364	34	12,898
20. Condensing Units—7½ Hp	10	5,729	....	....	4	2,080	14	7,809
21. Condensing Units—10 Hp	1	825	1	809	1	606	3	2,240
22. Condensing Units—15 Hp	6	5,290	....	....	1	614	7	5,904
23. Condensing Units—20 Hp	6	8,824	....	....	....	....	6	8,824
24. Condensing Units—25 Hp	....	....	....	....	....	....	....	....
25. Condensing Units—30 Hp	2	3,959	....	....	....	....	2	3,959
26. Condensing Units—40 Hp	1	2,409	....	....	....	....	1	2,409
27. Condensing Units—50 Hp	....	....	....	....	....	....	....	....
28. Total—All Condensing Units (11 to 27)	6,300	512,936	129	10,629	726	61,512	7,155	585,077
29a. Condensers—Sold Separately Shell & Coil or Shell & Tube	2	815	....	....	....	....	2	815
29b. Evaporative Type	3	1,656	....	....	1	509	4	2,165
30. Total—All Commercial Refrigeration	....	$1,276,068	....	$108,170	....	$105,223	....	$1,489,461

*Includes sales and credits.

Servicing Ice Cream Cabinets—Some Tips on a Specialized Field For Refrigeration Service Men

Editor's Note: The following is a condensed version of the talk on "Servicing Ice Cream Cabinets" given by W. E. Weaver, service manager, Borden Associated Companies, Toronto, Canada, before the first Annual Refrigeration Convention and Exhibition of Canada held last week in Toronto.

Mr. Weaver's talk gives the type of information that a service man should hang up on his wall and glance through each time he is about to set out on a service call involving ice cream cabinet equipment.

By W. E. Weaver, Service Manager,
Borden Associated Companies, Toronto, Canada

Ice cream cabinet service is quite highly specialized. Lack of proper refrigeration causes ice cream to spoil or shrink very quickly. Correct temperatures are necessary to provide proper hardness of ice cream for the making of sodas and sundaes and "take-home" orders.

A service engineer must not only know refrigeration well, but should have a general knowledge of how ice cream is made and handled, also have enough training to engineer an installation of any description, no matter whether it is portable, remote, or a large multiple hook-up used in fountains. This last is very important so as to assure the dealer he may have proper temperatures for his ice cream, soda and drinking water, and his milk and other storage.

Today you are servicing equipment of several makes, made up of brine equipment in boiler and expansion; dry expansion and high side float. Recently there has come into use plate cabinets with an eutectic solution in them for a hold-over and this year we will see quite a few of these plate jobs with capillary tubes, doing away with all valves. There are practically no sulphur dioxide cabinets being purchased at the present time—methyl chloride and "Freon-12" being used by all manufacturers; also brine tanks are a thing of the past.

BEFORE INSTALLATION

Most companies operate repair shops and it is quite important that all equipment be well gone over before installation. Motors, controls, and valves should be checked and if the shop is not equipped for this work, they should be sent to the manufacturer for repair. The compressor should be efficient, the condenser clean, and proper belt and pulley. Cabinets should be clean, tops in good shape and with proper lids, as much work as possible should be done in the shop as it costs less to do the work there than out in a dealer's store.

A service engineer will have a proper kit of tools and carry a fair stock of parts so as to give immediate and efficient service. He should be clean and tidy as no fountain operator wants anyone behind his counter that is not as spic and span as himself. Ice cream is a quality food, and should not be handled by a service man. A suggestion at this time would be—always ask the fountain operator to move or change over any ice cream that is in the way.

When a service engineer arrives on the job, he should diagnose the trouble carefully; talking to the dealer will often help. Good gauges are very essential and should be used every time there is any change to be made, such as a compressor body, or a part of the body, adding gas or oil, valves or controls. They are most important when making temperature adjustments. Do not be afraid to use a thermometer freely. Your gauges and thermometer are to you what a stethoscope is to a doctor. Don't say "I guess that is fixed now."

SOME SERVICE POINTS

I would like to stress several points about service. We know compressor bodies or pumps have to be efficient to handle the low temperatures required—therefore, we must check all the different parts of a compressor body. By this I mean—does the body pump down fast enough—does the plate valve hold—is the seal all right—is the flywheel on tight? Make sure there is sufficient oil in crankcase. Parts of this work are not really important when on a service call, but should be done if you are on an inspection call.

Belts play a part in service that we often overlook, and the price of a belt, or belts, will not begin to pay for a repeat call—so always take a good look at the belt.

Condensers are always needing a little attention as they become clogged up with dirt. This is especially true of any portable equipment. Always make sure you get them cleaned out quite often as condensers partly closed off will result in high head pressures, increased running time, and often cause a pump to knock.

While on condensers, some manufacturers used small condensers, causing headaches to our service men, especially in the hot weather. You certainly can improve compressor operation by replacing these small condensers. A replacement is often cheaper to do than have a call every time there are a couple of hot days.

Last of all on compressors—be sure you have replaced all caps and plugs, and don't forget! Check for leaks.

There is not much to say about motors as we have very efficient motors and motor repair companies today, who are ready and able to assist you in your troubles. There is a very fine relay on the market today that will help cut down field calls and will stop burn-outs. However, make sure your service call takes in the motor—see that the motor is in line—all mounting bolts tight—belt in line and of proper tension—and, again, don't forget! "Did you check the motor for oil?"

Next we come to, perhaps, one part of a refrigeration system that you hear discussed quite often—Driers and Drying Agents. The proper use of driers on methyl chloride and "Freon" systems will materially lower your service calls. Of course, we all know the best way to remove any quantity of moisture is to remove the equipment to a repair shop, overhaul and bake out, re-charge with oil and gas, and re-install.

USE OF DRIERS

Sometimes this is not possible, and, therefore you have to do one of several things.

One of the best, in my opinion, is to take off present drier, if there is one, and install a large drier of calcium chloride, leave on for not more than 24 hours and replace with another drier of Silica Gel, Activated Alumina, or Drierite.

If you want to use Thawzone or Ice-X with the last drier, you will be quite sure that the valve will not freeze up and copper plating should not occur.

If a unit is quite wet, I would suggest you purge off all gas and oil in system and replace with new. Do not be afraid to use large enough driers. In other words—get your money's worth when you buy driers.

Today there is a trend away from multiple hook-ups — of installing equipment of very wide differences of temperature such as drinking water and an ice cream section. Service engineers nearly always do a little cussing when one of these jobs quit.

Take for instance, a fountain with a sweet water bath in a restaurant that will use a large number of glasses of water at a peak rush. The water bath temperature becomes high and warm suction gas will back up into the creamer coil, often causing the customer to call for service and when the service man arrives everything is right again except the cream is still soft.

On installations of this kind it is very important to make use of check valves, etc. and be sure the compressor has enough capacity to handle peak loads. Where it is possible, it is a good practice today to install the back bar, salad pan, sweet water bath, and other temperatures around 35° to 40° on one compressor and install another compressor on the ice cream section. In this way you will be able to take care of peak load hours without materially changing temperatures in another fixture.

On a creamer section and soda and water cooling unit one compressor will do a nice job, providing you put on correct control valves and switches. By this job I mean a bob-tail fountain with an ice cream cabinet. This is not done a great deal today by ice cream companies due to various agreements that do not include service on any equipment except the cabinet and compressor, and of course, there are bob-tail fountains with units in them hooked up as portables.

Portable cabinets have come along very rapidly in the retailing of ice cream. When called to do service on a portable with the confined space that the compressors are in, it is quite necessary to have certain special tools that will suit peculiarities of the unit that you are working on.

SERVICING 'PORTABLES'

I have seen men using a Stillson wrench to take out a plug, or a hammer and chisel to get a bolt loose. I will admit that if some of the engineers that design equipment had to do service in the field on that piece of equipment, he would make it possible to do a job without wishing you had about four hands. I noticed at Chicago this year a few makes of cabinets with pull-out units. While this feature looked very good at the time, some experience will tell us more about it.

Servicing of portables, of course, takes in your motors, controls, valves, and high side floats. Here is another place where you will have to watch your condensers—also belt tension is important.

Sometimes a portable will be placed in a counter and nearly all air circulation cut off, but by putting on the proper fan blade on the pulley, the air will be moved fast enough. Always use a pusher or pull blade so that the air is being removed from the compartment and not pushed into the compartment. By getting the hot air from the condenser away from your machine through the grids, there is not much chance of it returning.

Quite often there is a problem in our shops of re-operating old equipment. Your manager might want to use some equipment forever and you would like to take it to the dump. I know of some cabinets that are rebuilt that were originally purchased in 1927. These cabinets were well gone over and will give quite a number of extra years service.

Two companies today manufacture a plate assembly for rebuilt work that has been very good. While this makes an expensive program, you sure can put a cabinet back in the field that looks right and will give results.

'PREVENTIVE' SERVICE

From about 1932 on for about five years, cabinet companies seemed to do a lot of experimenting. We had our store-filled type, wrap-around jobs with very little tubing, some used Celotex for insulation, some had galvanized iron tanks with copper tubing soldered on. If at any time moisture became lodged behind this sleeve, an electrolysis started and some day the dealer would have most of a sleeve fall into his ice cream.

When going over some of the brine boiler cabinets, I would caution you to watch out for soft solder boilers—also it more than pays to see that all seams and joints in the sleeves and tank are well soldered. A good coat of asphalt paint over the seams will help to take up any danger of corrosion and eventually a brine leak.

"Preventive service" is an idea that has grown considerably the last couple of years and it sure pays dividends. I had an occasion a couple of years ago to go out in a district with a service engineer who was looking after about 800 installations. By earnestly working on preventive service, this man had put all of his equipment in such shape that he was only getting about 10 calls a month from the dealers, and I might also say that his smallest account was around 800 gallons.

By oiling motors, checking belts, cleaning condensers, and so forth at regular intervals, you will cut down on those peak rush days in June, July, and August.

SPORLAN type 50 SOLENOID VALVE
joins the SPORLAN PARADE of
PERFECT PERFORMERS
TYPE 10 Freon Methyl Chloride
TYPE 20 Water
TYPE 30 Ammonia
TYPE 40 Freon Methyl Chloride
TYPE 50 Solenoid Valve for Liquid Refrigerant Lines
Freon 20 tons
Methyl Chloride 40 tons
Compact Arrangement of Type 40 Solenoid Valve, Type O Valve and SPORLAN Refrigerant Distributor
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For Peak Performance on all installations specify SPORLAN throughout!
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Lower Power Cost
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Low Original Cost

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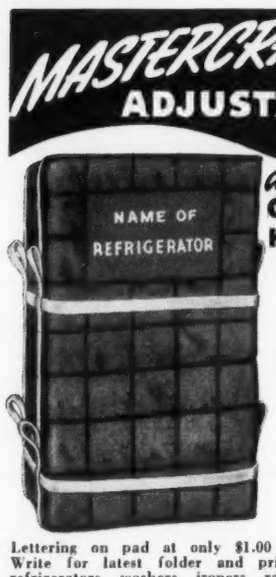
WHEN you install the new McQuay ZerOpak you eliminate the sharp freezer room and thus permit more rentable space. This new combination sharp freezer and locker room cooler is made in sizes to exactly balance standard compressors of 1, 1½, 2, 3, 5 and 7½ H. P. which enables the unit to operate at full capacity which provides top efficiency. The McQuay ZerOpak is self-contained with built in water defroster which defrosts in 4 to 5 minutes. It costs no more than older methods. See your locker plant engineer or write McQuay, Inc., 1607 Broadway Street, Minneapolis, Minn.

McQuay ZEROPAK LOCKER ROOM UNIT

Racine, Wis. Dealers Stage Exhibit at Cooking School

RACINE, Wis. — Appliance exhibitors at the ninth annual food show and cooking school held April 2 to 6 in Memorial hall here included the LeCointe Radio & Electric Co., White Brothers, and the Lincoln Hardware Co.



MASTERCRAFT ADJUSTABLE PAD and CARRYING HARNESS

Efficient, sturdy and economical. Provides safer handling and thorough protection of refrigerators. Pad and harness are separate units and both adjustable to practically all styles and sizes of cabinets.

Adjustable Pad $9.75 each
Adjustable Harness $6.25 each
f.o.b. Chicago.

Lettering on pad at only $1.00 per order extra. Write for latest folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

BEARSE MANUFACTURING COMPANY
INCORPORATED 1921
3815-3825 Cortland Street, Chicago, Illinois

First Canadian Refrigeration Exhibition Attracts 700 From Canada and U. S. For Interest-Packed Show

By Robert M. Price

TORONTO, Ont., Can.—More than 700 refrigeration men from many parts of Canada and the United States gathered at the first Canadian Refrigeration Convention and Exhibition held at the King Edward hotel here April 1 and 2. The exhibition was sponsored by the Ontario Maple Leaf Chapter of Refrigeration Service Engineers Society.

From the opening gun on Monday morning, the show was in high gear as refrigeration men came to view the new products and to sit in on the excellent educational sessions arranged for the show. Displays were set up in booths on the mezzanine floor of the hotel, and the representatives of the 29 exhibitors at the show were kept going full time to satisfy the unusual interest displayed by show visitors.

WELL-ATTENDED MEETINGS

Meetings held during the show were well attended as refrigeration experts from Canada and the United States presented papers of real interest to the service men. A good measure of the interest displayed were the "Information Please" sessions held at the end of each day's meetings. At these sessions, the audience fired questions at the speakers and these "experts" really had to be on their toes to answer the questions directed to them.

As the papers presented at the meetings covered a wide range of subjects, the service men had a good opportunity to get valuable first-hand information from the papers presented and from the question and answer sessions. The "Information Please" part of the meetings were conducted by H. Parish of Refrigeration Supplies Co., Ltd., London, Ont. jobber.

THE SPEAKERS

The program of speakers for Monday started out with a paper on coils presented by H. Pullen of Air-Coils, Ltd. K. M. Newcum of Superior Valve & Fittings Co., Pittsburgh, talked on "Driers and Drying Agents." Dr. F. F. Musgrave, Imperial Oil, Ltd., presented a paper on "Refrigeration Oils."

"Servicing Ice Cream Cabinets" was the subject discussed by W. E. Weaver, service manager of Borden Associated Companies.

On Monday evening a tube bending contest, sponsored by Imperial Brass Mfg. Co., was conducted. Hilton Arthur of Ottawa was returned the winner in this contest with a time of 22 minutes for the event.

On Tuesday the speaking program got under way with a talk on "Electric Motors" given by R. H. Switzer of McKinnon Industries, St. Catherines, Ontario. "Compressor Capacities" was the talk delivered by L. Larson of Tecumseh Products Co. E. G. Graff of Ranco, Inc. discussed "Controls." C. O. Roe of Canadian Industries, Ltd. presented a discussion of "Refrigerants." W. R. Warner of Frigidaire addressed the meeting on "Multiple Hook-ups, Heat Exchangers, and Oil Separators."

Spaced between the meetings the show visitors were given time to see the exhibits. Booths were well-manned by representatives of the companies exhibiting. The companies exhibiting at the show were:

EXHIBITORS

Airco Refrigeration Parts Registered, Air Coils, Ltd., Brunner Corp. of Canada, Canadian Curtis Co., Ltd., Canadian General Electric Co., Canadian Industries, Ltd., Canadian Norbel Co., Canadian Westinghouse Co., Davis Automatic Controls, Eureka Refrigerator Co., Frigidaire Division of Canada, Gates Rubber Co., Gilson Mfg. Co., Imperial Oil, Ltd., Kelvinator of Canada, Ltd., Leland Electric Co., McKinnon Industries, E. Milner & Son, Minneapolis-Honeywell Regulator Co., Northern Electric Co., Powerlite Devices, Railway & Engineering Specialties, Refrigeration Supplies Co., Sherer-Gillett Co., Ltd., Snap-On Tools, Ltd., Square D Co. of Canada, Universal Cooler of Canada, Wagner Electric Co.

The committee in charge of the show arrangements was made up of members of the sponsoring Ontario chapter of R.S.E.S. Chairman was Ken Wood, president of the Ontario chapter. His committee, who worked hard and long to put the show over, was composed of the following:

Gordon A. Burns, international president of R.S.E.S., J. R. Potts, Robert O'Connell, R. J. Mackie, H. Draper, Harold L. Donnell, William Marshall, William Sneath, H. F. Nye, Frank C. Strong, Edward G. Spall, James Spence, T. Savill, John W. McKee, H. Parish, A. E. Doan, and William Weaver.

BANQUET AND DANCE

On Tuesday night the banquet wound up the activities. More than 300 couples attended the banquet and the dance which followed. The banquet was ably toastmastered by Ken Wood, who kept the speeches down and the fun way up. An all-star floor show was the high point of the evening's entertainment. Principal address was given by Gordon A. Burns, international president of R.S.E.S. Mr. Burns expressed the thought that Canadian refrigeration men had made a great advance through this first exhibition, and predicted that it would be an annual event. He stretched his hand across the border to the many visitors from the United States, and welcomed their continuing interest in Canadian refrigeration activities.

ASSOCIATION FORMED

It was announced that representatives of R.S.E.S. chapters from London, Ottawa, Montreal, and Toronto had met to form a Canadian association of R.S.E.S. chapters. The officers of the inter-provincial chapter elected were: George R. Huffer, Toronto, president; J. D. Ross, Railway & Engineering Specialties, Montreal, first vice president; Charles Cunningham, London, second vice president; and C. R. Jones, Ottawa, secretary-treasurer.

Crosley Shows New Lines With an Extravaganza

CINCINNATI—Tempo of the 1940 merchandising campaign of the Crosley Corp. in introducing its 1940 electric refrigerators and gas ranges is spectacularly dramatized by an extravaganza of beautiful girls who demonstrate the features and advantages of the new models.

First show took place the night of March 20 at the Congress hotel, Chicago, and it will be held in some twenty leading cities throughout the country, running well into May. Seven hundred and fifty sales people and representatives of the management group of retailers attended the show, which was sponsored by C. S. Tay, manager, Crosley Distributing Corp., Chicago.

Next day a special showing was given to 200 merchandising managers and members of the retail management group.

Thomas W. Berger, Crosley general sales manager, describes it as a fast moving one-hour-and-ten-minute show that vividly demonstrates the Shelvador and the Freezorcold among other features of Crosley refrigerators and many special range features.

Refrigeration Guild Members Hear Talks On Valves, Fittings

NEW YORK CITY—Talks on new developments in the valves and fittings field occupied the interest of members of the Refrigeration and Air Conditioning Guild, Inc. at their first open meeting of this year, held March 29 in the Webster Hall, 119 E. 11th St. Speakers were R. E. Townsend of Detroit Lubricator Co. and Mr. Domke of Mueller Brass Co.

Mr. Townsend showed pictures describing in detail Detroit Lubricator's new "Durofram" thermostatic expansion valves, following this with a discussion of the features and uses of the valves in various applications.

Mr. Domke discussed the various types of valves, fittings, driers and strainers, and demonstrated the various sizes of hard drawn copper tubing which his company makes for soldering.

The guild's second annual dinner dance and entertainment will be held on Sunday evening, April 21, at the Queens Terrace, Roosevelt Ave. and 69th St., Woodside, N. Y.

Only Dealers To Sell G-E Commercial In Chicago

(Concluded from Page 1, Column 5)

marketing commercial equipment through "specialized accounts." "We have three dealers that sell regular commercial systems, including walk-in coolers, and other types of built-up jobs. Then we have three dealers who specialize in the sale of beer and liquid cooling equipment. In addition we sell compressors and coils through fixture houses."

The distributing structure will be extended further by permitting the company's appliance dealers to market "package" commercial products in the areas they serve.

"We are getting better coverage than ever before," Mr. Larsness says, "and this is reflected in the fact that our sales of condensing units alone are running 35% ahead of last year. We believe that the independent dealer has become the most important factor in the commercial refrigeration business in the area which we serve and we plan to assist our dealers in every way possible."

Cincinnati Engineers Form ASRE Section

CINCINNATI—Initial steps toward organization of a section of American Society of Refrigerating Engineers here were taken at a meeting March 28 in the Netherland-Plaza hotel. Approximately 100 engineers attended the meeting, with delegations from Dayton and Columbus, Ohio, and Connersville, Ind. being present in addition to local men.

An organization committee is now being appointed to set a time for regular meetings and arrange for election of section officers.

Speakers at the meeting included E. W. Townsley of C. M. Robinson Co.; Paul Christensen of Kroger Grocery & Baking Co.; and W. B. Cott of Doermann-Roehrer Co. David L. Fiske, national secretary of A.S.R.E. also attended the meeting.

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FINEST NAME IN AIR CONDITIONING

MOST VALUABLE FRANCHISE in the WINDOW-TYPE FIELD

Pleasantaire Corporation, Tower Bldg., Washington, D. C.

HERMAN GOLDBERG CO.

MANUFACTURERS' AGENT

RANCO CONTROLS — ANSUL REFRIGERANTS

STANDARD EVAPORATORS
D.F.N. DEHYDRATORS CHICAGO SEALS

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You get it in WOLVERINE TUBING

WOLVERINE TUBE CO. DETROIT

TIE UP WITH THE BEST

★ Half-automatic, half-"do-it-by-hand" stokers cannot successfully compete with completely "automatic" stokers. That is why stoker and coal dealers are turning to "Original Pocahontas" completely automatic heat.

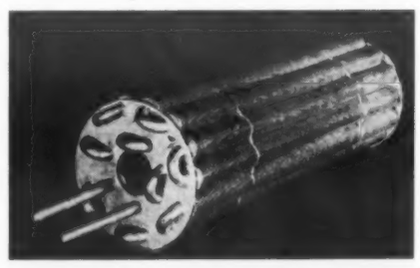
No other stoker can fully meet the requirement of the home owner. No other stoker can supply the dealer with an effective weapon to use against competitive fuels.

Recent price reductions (up to 20%) make "Original Pocahontas" Stokers truly competitive. Here is your opportunity. Write for full information while territories are still available.

THE POCAHONTAS FUEL COMPANY INCORPORATED
1200 EAST 152nd ST. *Stoker Division* CLEVELAND, OHIO

POCAHONTAS
Automatic Coal Burners

No Joints! No Leaks!



This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

ROME-TURNEY RADIATOR COMPANY
222 Canal Street
ROME, N. Y.

MOTORS and FANS for *Commercial Refrigeration*

For commercial refrigeration, motors and fans must be designed and built to meet unusually exacting requirements.

Russell matched units are backed by years of experience in this highly specialized field, with the result that our motors and fans are notable for

- Exceptionally Long Life
- Quiet, Efficient Operation
- Lifetime Lubrication
- Low Power Consumption

In addition to a wide variety of fan sizes and motor designs available, we are prepared to design special units to meet your specific needs.

RUSSELL ELECTRIC CO.
350 W. Huron St. Chicago, Ill.

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, $2.00. additional words, four cents each. Three consecutive insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS WANTED

YOUNG MAN, age 28, single, and ambitious. Good character references. High school graduate and two years of college. Graduate of Air Conditioning & Refrigeration Institute. Will consider anything concerning air conditioning, refrigeration or heating. Can handle estimating. Salary secondary. Write MAX BOOKWALTER, Thompsontown, Pa.

YOUNG MAN, I.T.I. graduate, wishes to get into the refrigeration or air conditioning industry. Willing to start at the bottom as a helper and at a small salary. Best references, very hard worker, have a car, willing to travel if necessary. STANLEY JURCZYK, 1717 Brevier Ave., Cleveland, Ohio.

POSITION WANTED by an air conditioning service engineer, who is willing to take a job in either air conditioning or refrigeration. I am a graduate of the Industrial Training Institute of Chicago. For further reference, write MR. UNO MAKI, Box 42, Zim, Minn.

POSITIONS AVAILABLE

ENGINEER—Progressive household refrigerator manufacturer now manufacturing hermetically sealed compressors desires an engineer with recent experience in design and development of small hermetic compressors. Should have degree in electrical or mechanical engineering with practical experience in manufacturing processes and laboratory test procedures. Would act as assistant to engineer now heading the compressor department. State salary expected, experience, education, age and give references in first letter. Our employees know of this ad. Box 1225, Air Conditioning & Refrigeration News.

THREE POSITIONS in leading tropical markets for single, adaptable and self-reliant men experienced in sales, application and service of self-contained air conditioners with ½ to 15 tons capacity. Initial salaries $3,000-$4,500. If of executive type with these qualifications, send full particulars, in confidence, to WAYNE CLEMENS, REMINGTON AIR CONDITIONING COMPANY, 44 Beaver St., New York City.

REPRESENTATIVE AVAILABLE

MANUFACTURER'S REPRESENTATIVE calling on refrigeration jobbers and dealers in Detroit and Toledo areas handling well known low-side equipment is in position to handle another line. Correspondence kept strictly confidential. E. T. KLEE, 2008 West Grand Blvd., Detroit, Mich., Phone Tyler 4-8050.

BUSINESS OPPORTUNITIES

MY CLIENT, a retired refrigerator manufacturer, desires to re-enter the refrigeration industry. He is interested in financing the manufacture of any worth while commodity related to refrigeration or air conditioning, particularly the manufacture of items covered by patents or patents pending. Write: CHARLES PINCUS, Attorney, 9 E. 40th Street, New York City.

FRANCHISES AVAILABLE

DIRECT FACTORY CONNECTION. Sell refrigerated display cases, walk-in coolers, reach-in refrigerators, refrigerating units, to meat markets, grocers, taverns, etc. Financing arrangements to help sell. Write for full information, or see DEPT. A, EHRLICH REFRIGERATOR MFG. CO., St. Joseph, Mo.

EQUIPMENT WANTED

WE BUY SURPLUS, discontinued stock of refrigeration parts, controls, gauges, expansion valves, valves, regulators, compressors, units, evaporators, belts, trays, hardware, fittings, motor parts, condensers, and motors. Submit quantity and price or send sample. ADAMS SUPPLY CO., 2074 Webster Ave., New York, N. Y.

WE BUY UP manufacturers, jobbers, dealers bankrupt surplus and discontinued merchandise and equipment. We are interested in motors, compressors, controls, valves and parts. Send us a list of equipment you have. R & R REFRIGERATION CO., 508 Morris Ave., Bronx, N. Y.

SPOT CASH paid for surplus refrigeration equipment such as compressors, motors, controls, fittings, copper tubing, shut-off valves, automatic water valves, special tools, etc., and all types complete units. No quantity too large. Send full particulars. W. W. JAMES, 1144 Ward Ave., Bronx, N. Y.

EQUIPMENT FOR SALE

BRAND NEW General Electric and Frigidaire units complete with pressure control: ⅛, ¼ and ⅓ Horse Power. New ¼ and ⅓ Horse Power Frigidaire compressors. New ¼ and ⅓ Horse Power General Electric bent over compressors. All brand new merchandise packed in individual cartons. GENERAL REFRIGERATORS CORP., 518 East 20th Street, New York City.

FOR SALE at ridiculously low prices for cash. Approximately 125 five cubic foot, top mount electric refrigerator cabinets. Porcelain interior, white Duco exterior finish on bonderized steel. For further details write THE MAINE MANUFACTURING COMPANY, Nashua, New Hampshire.

QUANTITY OF 2 row 9 pass condensers brand new, suitable for use on ⅓ and ¼ h.p. units—$2.00 each. Also Sparton and Gibson compressor bodies complete with pistons—$3.95 each, used re-fillable 2" dryers, 75¢ each. Syntron Sparton-Gibson seals—$3.75. ASSOCIATED REFRIGERATOR PLANT, Inc., 3028 Hunting Park Ave., Philadelphia, Pa.

QUANTITY OF REBUILT Penn One Button Domestic Controls, like new, price $1.35 each F.O.B. Chicago, Illinois. G & E BROKERAGE CO., 444 West Grand Ave., Chicago, Ill.

DEALERS AND SERVICEMEN—Offering Kelvinators, General Electrics, Westinghouses, Frigidaires, as is, as low as $10.00 each, guaranteed fully equipped. Frigidaire compressor units, all sizes, guaranteed in perfect condition. We have brand new boxes, all makes, at below dealers' prices. Write for prices! LANDOR WAREHOUSE, INC., 53 East 10th St., New York City.

REPAIR SERVICE

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

CONTROLS RECONDITIONED like new. Precision work by experts. "Years of Satisfied Customers," our motto. All work guaranteed for one year. Try us and be convinced of our unexcelled service. Special prices in quantity lots. For further information write: UNITED REPAIR CO., INC., 342 W. 70th St., New York City.

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Orrall Manages Sherer New England Sales

MARSHALL, Mich.—E. W. Orrall of Braintree, Mass. has been appointed New England sales manager for Sherer-Gillett Co., manufacturer of commercial refrigeration equipment.

Mr. Orrall has had more than 15 years of experience in the commercial refrigeration field, during which time he has been covering the New England states exclusively.

Petrie Sues 'Speed Queen' Firm on Salary Count

(Concluded from Page 1, Column 1)

of the firm's net income after Jan. 1, 1939, until the expiration of the contract, according to the complaint.

Directors of the company on Feb. 3, 1940 voted Mr. Petrie out of office, and terminated his contract without cause, the complaint charges. It denies that Mr. Petrie failed to perform his duties and to cooperate with the board of directors.

Mr. Petrie is seeking $16,500 in salary from Feb. 1 to Dec. 31, 1940, $6,469 as his 3% commission on net income for 1939, and another $9,460 as the estimated 3% commission for 1940.

Prior to his association with Barlow & Seelig, Mr. Petrie was sales manager of Leonard refrigerators, and had been connected with Kelvinator-Leonard merchandising activities in various capacities since 1925.

Nebraska Power Dealers Report 1940 Gains

(Concluded from Page 1, Column 5)

sales for the same period last year. In Omaha, washing machines were third in sales for the opening months, while in Council Bluffs, vacuum cleaners just nosed out washers for this honor.

Actual figures for both cities for the two-month period of 1940 and of 1939 follow:

OMAHA
(From Reports of 95 Dealers)

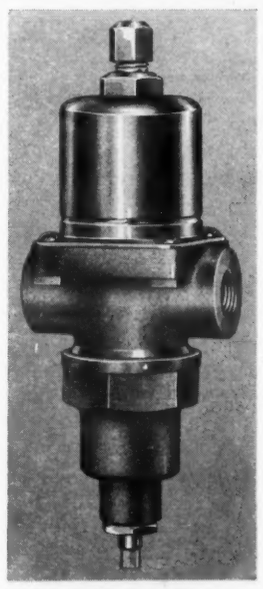
Appliance	Jan.-Feb., 1940	Jan.-Feb., 1939
Refrigerators	520	457
Ranges	48	18
Water Heaters	4	3
Washers	447	568
Ironers	58	93
Vacuum Cleaners	306	435
Radios	1,800	2,263
Dishwashers	...	...

COUNCIL BLUFFS
(From Reports of 34 Dealers)

Appliance	Jan.-Feb., 1940	Jan.-Feb., 1939
Refrigerators	72	49
Ranges	8	1
Water Heaters	1	1
Washers	68	67
Ironers	2	3
Vacuum Cleaners	69	38
Radios	284	276
Dishwashers	3	...

THE BUYER'S GUIDE

THE NEW KOCH
Crispeteria
One of Many
outstanding Koch Products in the complete line of Koch Commercial Refrigerator Cabinets.
Write for details concerning open territories.
KOCH REFRIGERATORS
NORTH KANSAS CITY, MO.



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Stainless steel adjusting stem fits standard ratchet wrench. Removable body seat and seat washer can be replaced without removing valve from lines. Internal construction permits operation and adjustment even in hardest water. For SO_2, CH_3Cl and "F-12."

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FROZEN FOODS, FARM STORAGE, FURS, ICE CREAM INCREASE VAST FIELD SERVED BY WILSON

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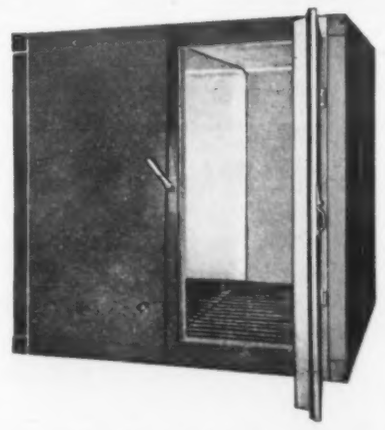

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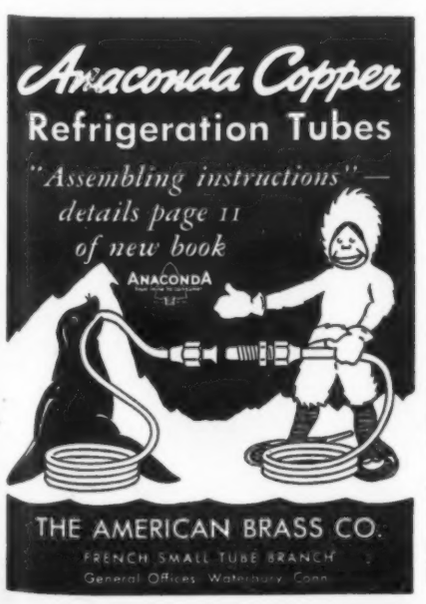

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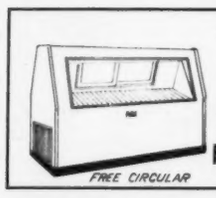
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THE HERMETIC STORY
FIVE YEAR WARRANTIES ARE AVAILABLE TO MANUFACTURERS AT SLIGHT ADDITIONAL COST. OR FLAT PRICE REPAIR WITH ADDITIONAL WARRANTY CAN BE SECURED AT NOMINAL COST KNOWN IN ADVANCE
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ACCESSORIES?
. . . Crispers
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Defrosting Trays, Dishes, etc., etc.
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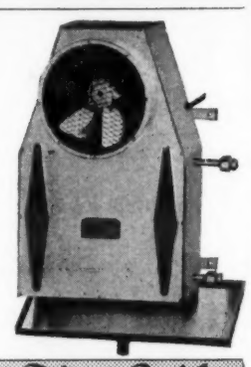
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the ONLY Direct Draw System manufactured that has AIR COOLED TAPPING UNITS!
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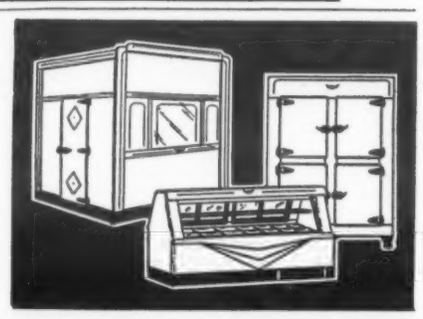
FOGEL REFRIGERATOR COMPANY 16th & Vine Sts., Phila., Pa. *Since* 1899

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USE GENUINE CARRENE AND AVOID TROUBLE
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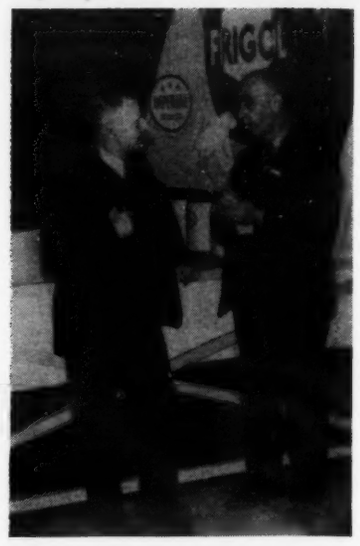
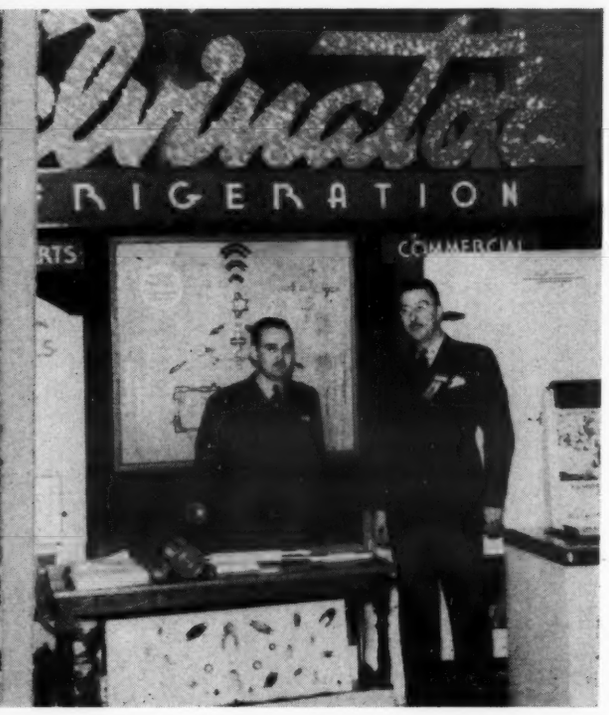
Some Personalities and Events at Canada's First Refrigeration Show

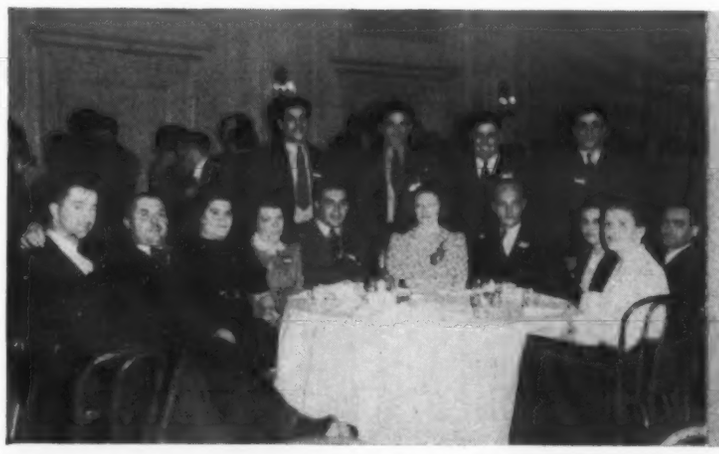


(1) David L. Fiske, national secretary of A.S.R.E., visits the Kelvinator booth and chats with C. A. Kirkwood of Kelvinator of Canada. (2) Frank Tunney (in smock) of Railway & Engineering Specialties, Ltd. conducts a welding exhibition in the company's booth. That's Bill Nye, also of Railway & Engineering, facing the camera. (3) Jack Ross of Railway & Engineering's Montreal office, talks the show over with W. E. Weaver, service manager of Borden Associated Companies. (4) Alec Dawson of Resco and C. A. Fabien, refrigeration man from Montreal, compare notes on convention doings in front of the Imperial Oil, Ltd. booth.



(1) Speaker's table at the convention banquet. Ken Wood, president of the Ontario chapter of R.S.E.S., is at the microphone in his role as toastmaster. Second from left is Bill Marshall, chairman of the chapter's educational committee. On his left is Ed Spall, chapter treasurer, flanked by Ken Newcum of Superior Valve & Fittings Co. Gordon Burns, international president of R.S.E.S., is just visible behind Ken's notes. On the right of the "mike" is H. T. McDermott, national secretary of R.S.E.S., and W. R. Warner of Frigidaire, Dayton, Ohio. (2) Spencer Kilmer, Kelvinator office in London, Ont., and Frank R. Strong, service manager of Kelvinator's Toronto office, in the booth of Kelvinator of Canada. Mr. Strong was one of the show leaders.

(1) Ed Spall, Toronto, Harry Addison, Frigidaire company in Toronto, and Ken Wood, president of the Ontario chapter of R.S.E.S. and chairman of the show, enjoy one of the few lulls in the proceedings. (2) Joe Krall and Dick Townsend, Detroit Lubricator Co.; J. W. Collins, Toronto; and Bert Nye, Railway & Engineering Specialties Toronto office, talk over refrigeration problems on both sides of the border. (3) The comedy act at the tube bending contest. At the left is D. Tanner, Toronto City Dairy, and, right, is Bill Weaver of Borden Associated Companies. This proved to be one of the star acts of the show.



(1) The Buffalo contingent at the convention banquet. Seated left to right: George O'Hara, M. Fields, Mills Novelty Co. distributor in Toronto, Mrs. Fields, Sarah McIver, William Goeckel, Mrs. John K. Bush, John K. Bush, Mrs. B. Bush, B. Bush, and Mrs. George O'Hara. Standing, left to right: Russell Spinuzza, A. Dilorenza, Fred Cameron, and Vinc Dilorenza. (2) The "Board of Experts" at one of the sessions of "Information Please" conducted as a part of the convention speaking program. Left to right: Ed McGovern, R. & H. Chemicals division of du Pont, Ken Newcum, Superior Valve & Fittings Co., L. Larsen, Tecumseh Products Co., and G. E. Graff of Ranco. These experts untangled many refrigeration problems.

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Illustrated suggestions for cutting, bending and flaring small diameter copper tubes. Ask for copy.
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Notes on the Canadian Show

By Robert M. Price

Canada's first refrigeration exhibition was a huge success right from the opening bell. It was a pleasant surprise to many visitors from the United States, many of whom did not expect a show of such proportions. The exhibits were very good, and exhibitors at the show had a new flock of interested visitors from start to finish.

* * *

Knowledge For the Asking

Probably the most impressive part of the exhibition was the fine educational program. Every speaker commented on the big attendance and rapt attention at every meeting. Speakers really enjoyed talking to an audience of refrigeration men who were alert and interested in absorbing all the knowledge they could.

* * *

Unique feature of the speaking program was the "Information Please" session which followed each day's program. This arrangement speeded up the program considerably and gave the audience a fine chance to find out the knotty points of refrigeration from experts in each branch of the industry. This session was no "game" to the audience, because each question brought an answer that could be used to advantage in everyday service business.

* * *

All in all, the clever arrangement of the speaking program made the sessions easy to take and cram full of real interest to the big audience.

* * *

H. Parish of Resco, London, Ont. jobber, made a fine "Clifton Fadiman" as he steered the questions around the "board of experts."

* * *

'Krall & Kieran'

Joe Krall of Detroit Lubricator couldn't decide whether he wanted to be addressed as "John Kieran" or "Oscar Levant" after his appearance with the experts. Kieran and Levant, as you know, are the brain giants who appear on Canada Dry's weekly "Information Please" radio show.

* * *

Fast-Working Canadians

The idea for the Canadian refrigeration show was born as recently as a few weeks ago, after some of the Canadian boys returned from the Chicago show. But the boys up there move fast, and arrangements were completed on the "double quick."

* * *

The show, however, showed no evidence of hasty arrangements. Every little detail was ironed out and the affair went off as smoothly as water off a greased duck. The men in charge of the show deserve a big salvo of applause, for they certainly proved themselves to be in the veteran class of convention maestros—and this on their first time out.

* * *

Large-Size Welcome Mat

They spell hospitality up there in Canada with a large-sized "H." Each visitor at the convention was made to feel that the welcome sign was printed up especially for him. While they neglected none of the more serious points of the convention, the Ontario chapter of R.S.E.S. made doubly sure that the lighter moments were readily available.

* * *

French-speaking visitors from Montreal showed a keen delight in the new French Manuals recently published by the NEWS. The new Manuals were like "letters from home" for these men, as it is the first time such refrigeration literature has been available in the French language.

* * *

Tops At Toastmastering

Ken Wood, president of the Ontario chapter of R.S.E.S. who chairmanned the convention arrangements, is a hard-working chap who has the knack of getting things done with a maximum of laughs. His appearance as toastmaster of the convention banquet was an entertainment high of the whole show. He rattled off wisecracks with the ease of a George Jessel, and had the audience right with him every minute. Ken is sales manager for Frigidaire in Toronto.

* * *

'Fountain of Youth'

Bert Nye of Railway & Engineering Specialties Toronto branch, seems to have sampled the legendary "fountain of youth" somewhere along the way. Bert, who looks like a youngster himself, has a son, Bill, who looks more like his brother. Bill works with his dad, forming the youngest-looking father and son team you've ever seen. Bill is a crack photographer, also.

* * *

Buffalo was well represented at the show. George O'Harra and Mrs. John Bush must have been particularly glad they made the trip over from Buffalo. Both carried off door prizes at the banquet.

* * *

. . . And Those Gals

And talk about charming women. Maybe it's the cooler climate up Canada way, but the women who attended the show were certainly in the upper register of loveliness.

* * *

Frank Strong, service manager for Kelvinator in Toronto, was one of the main cogs in the convention planning, as was Bill Marshall, chairman of the Ontario chapter's educational committee. How they found time to be everywhere at once and still be in there strong at the finish is another vote in favor of a "bracing climate." Bill also found time to shoot some nifty camera angles on convention doings.

* * *

Score One For Eddie

Eddie McGovern of the Kinetic Chemicals division of du Pont was on hand at the show and appeared as a star on the "Information Please" program. Eddie has a practice of making the most side-splitting remarks with a deadpan demeanor. Eddie passed a crack to Ken Newcum of Superior Valve during the proceedings, and whatever it was Ken had to be almost helped off his chair, guffawing all the while.

* * *

Laugh Hit

Two topflight comedians were turned up at the tube bending contest. D. Tanner of Toronto and Bill Weaver of Borden Associated companies did a slapstick tube bending exhibition that brought down the house—including most of the plaster on the lower floor—as they wrestled the elusive tubing all over the room.

Darlington Cooking School Co-Sponsored By Press

DARLINGTON, Wis.—The stage of the Town theater here was converted into a modern kitchen for a cooking school and appliance demonstration held April 4 and 5 by the local press in cooperation with appliance dealers.

Appliances shown on the stage as part of the model kitchen included a Philco refrigerator sold by Phil J. Wiegel; a Monarch electric range from the Darlington Electric Co.; and a Speed Queen washer and ironer.

Maytag Dealer Sued Under Ohio Fair Trade Act

CLEVELAND—In the first court case involving major appliances under the Ohio fair trade act, Maytag Sales Co. has filed suit in common pleas court charging that Joseph L. and Morris Brouman, doing business as American Electric Washer Co. here, sold a Maytag unit, listed at $129.50 in franchise agreements, for $104, sales tax included.

The action, brought by Sanford B. Meyerson, Maytag attorney, seeks injunctive relief and $10,000 as alleged damages. In a deposition made to Mr. Meyerson, Morris Brouman claimed that the washer he sold was scratched; that the customer told him he could get it cheaper elsewhere, and that he did not know where his firm purchased the washer, since his brother handled such matters. The hearing was continued to April 4.

Olsen Modernizes

GREEN BAY, Wis.—Fred Olsen, pioneer radio dealer here, has enlarged and renovated his quarters at 107 S. Madison St. and is now featuring a complete line of Kelvinator household appliances.

PURO ELECTRIC WATER COOLERS
Thoroughly reinforced all steel attractively finished cabinets.
Complete line of different Models and Capacities.
Write for details and sales prices.
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PIONEER OF FOUR CYLINDER REFRIGERATION

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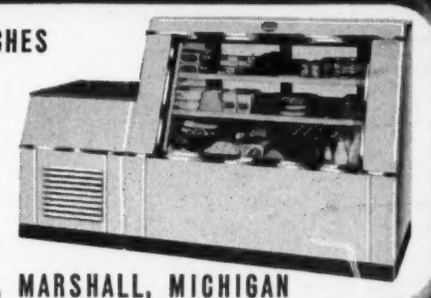
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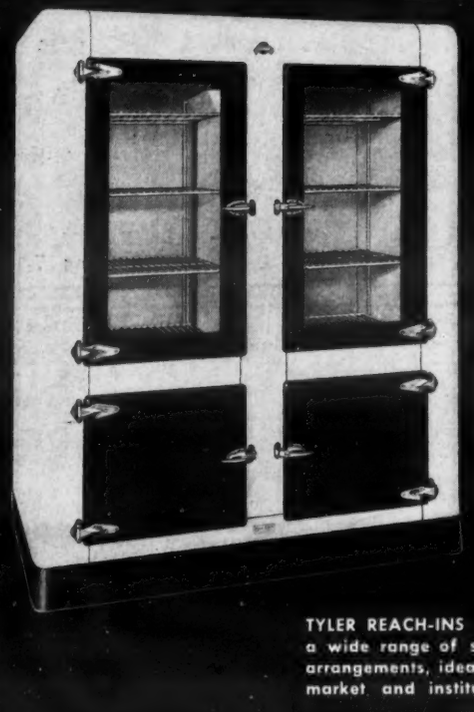

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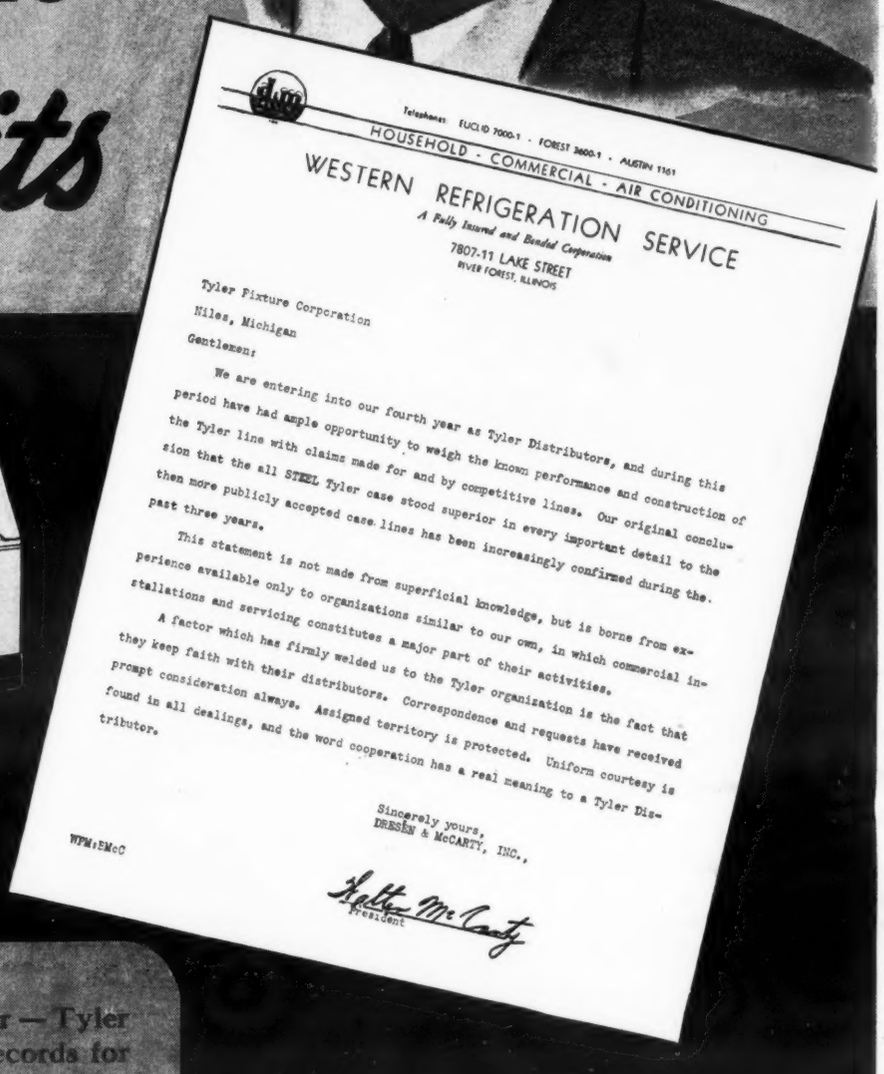

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RIVER FOREST, ILLINOIS

Tyler Fixture Corporation
Niles, Michigan
Gentlemen:

We are entering into our fourth year as Tyler Distributors, and during this period have had ample opportunity to weigh the known performance and construction of the Tyler line with claims made for and by competitive lines. Our original conclusion that the all STEEL Tyler case stood superior in every important detail to the then more publicly accepted case lines has been increasingly confirmed during the past three years.

This statement is not made from superficial knowledge, but is borne from experience available only to organizations similar to our own, in which commercial installations and servicing constitutes a major part of their activities.

A factor which has firmly welded us to the Tyler organization is the fact that they keep faith with their distributors. Correspondence and requests have received prompt consideration always. Assigned territory is protected. Uniform courtesy is found in all dealings, and the word cooperation has a real meaning to a Tyler Distributor.

Sincerely yours,
DRESEN & McCARTY, INC.,
Hatter McCarty
President

WFM:EMcC

TYLER TRIPLE REFRIGERATED VEGETABLE DISPLAY. Maximum accessibility and display. Complete produce department in one 6 ft. or 9 ft. unit.

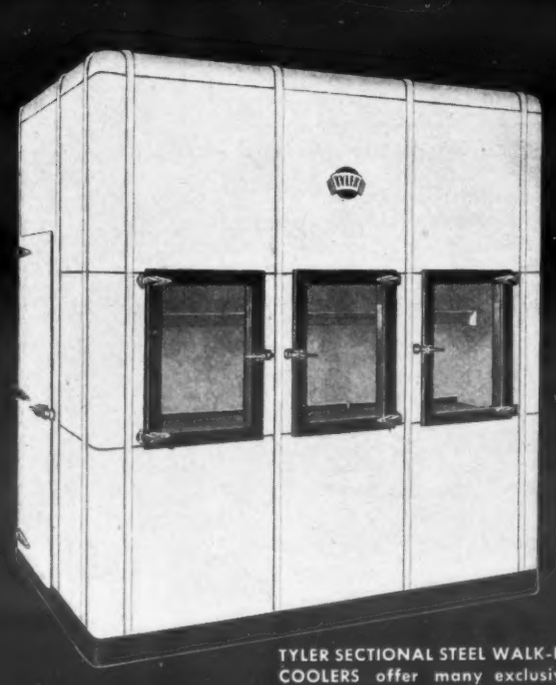
MONTH after month, year after year — Tyler dealers and distributors are setting new records for increased sales and profits. The reason is plain. Tyler's big line makes it possible for you to completely outfit modern food stores and opens up hundreds of live prospects in other fields. Tyler values are the result of leadership — an advantage which the Tyler dealer shares. The 1940 line, Tyler's greatest achievement, is now ready. Some choice territory still open. Write us today.

TYLER FIXTURE CORPORATION, Dept. E, NILES, MICH.

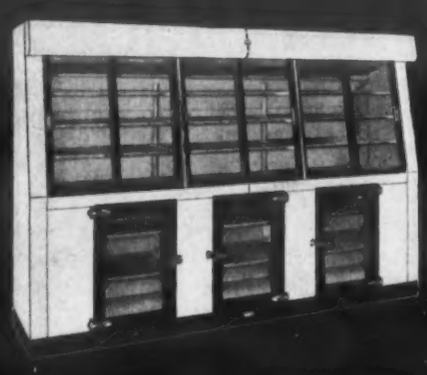
New York Office: 601 W. 26th St. Boston Office: 683 Beacon St.
Chicago Office: 1643 W. Ogden Ave.

TYLER WELDED STEEL *Refrigerators*

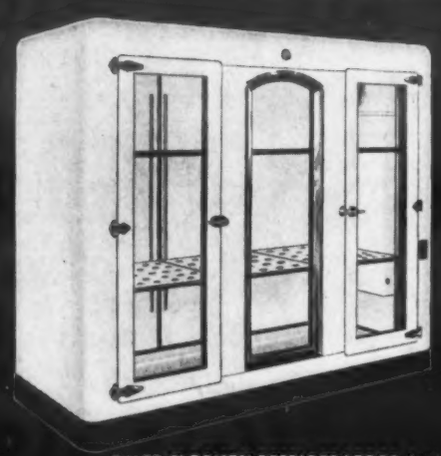
TYLER SALES FIXTURES



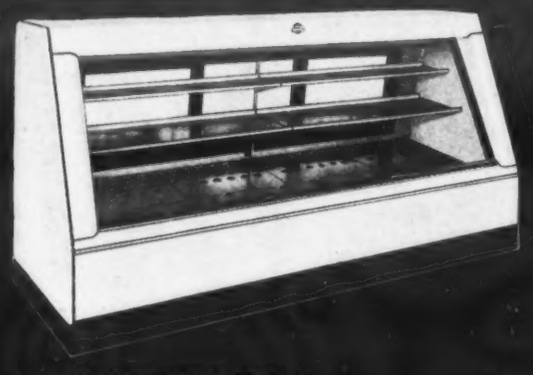
TYLER SECTIONAL STEEL WALK-IN COOLERS offer many exclusive improvements. Save money on transportation and erection costs.



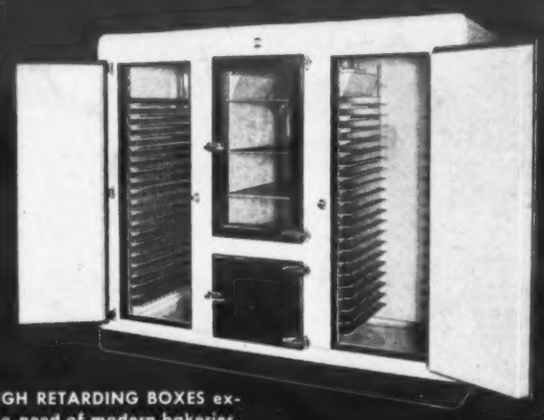
TYLER DAIRY BOXES give finest display and self-service accessibility for butter, cheese and many longer profit specialties.



TYLER FLORISTS' REFRIGERATORS designed for sales making display of cut flowers, plus ample reserve stock storage. Beautiful modern designs.



TYLER DELICATESSEN CASES, in 4 ft. to 10 ft. sizes. Stimulate sales on cold meats, cheeses, and prepared foods. Maximum display and shadowless illumination.



TYLER DOUGH RETARDING BOXES exactly fill the need of modern bakeries, large and small. Hold 40 to 60 standard bun trays. 40% greater capacity.

TYLER FIXTURE CORPORATION, NILES, MICH.